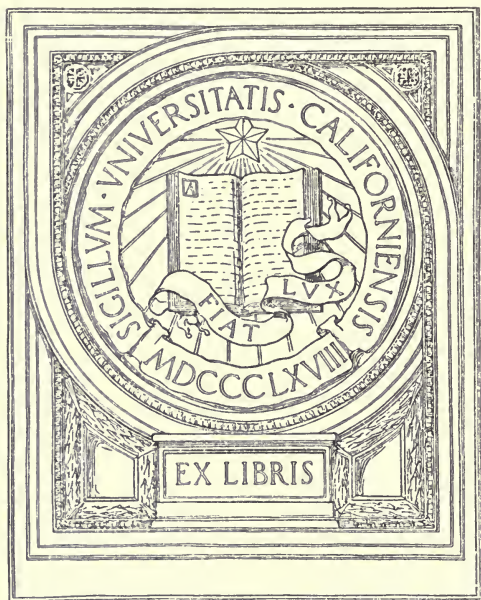




BULB GARDENING

By the same Author

ROSE GARDENING

with
ILLUSTRATIONS IN COLOUR
by

MAUD WEST,
and

DRAWINGS IN LINE
by

THE AUTHOR.

7/6 net

TOWN GARDENING

Illustrated by
PHOTOGRAPHS AND LINE
DRAWINGS.

6/- net.



AND
GARDEN



NARCISSI

Trumpet Daffodil
'The Doctor'
(Pale and deep gold)

Polyanthus Narcissus

Star Narcissus
'Incognita'
(White with yellow cup)

green

BULB GARDENING

BY
MARY HAMPDEN

Author of 'Rose Gardening,' 'Town Gardening,' etc.



LIBRARY
OF THE
NEW YORK
BOTANICAL GARDEN

Illustrations in Colour by MAUD A. WEST

Drawings in Line by THE AUTHOR

NEW YORK
CHARLES SCRIBNER'S SONS

1922

H3

WYU
07110

11243

'Life has its crystal days, its rare hours of a stainless beauty and a joy so pure that we may dare to call the flowers to rejoice with us, and the language of the little birds ceases to be an unknown tongue.'

M. CHOLMONDELEY.

469670

CONTENTS

PART I

HARDY BULBS

CHAP.	PAGE
I ALL ABOUT BULBS	15
II HYACINTHS	21
III THE TULIP	33
IV DAFFODILS, AND OTHER NARCISSI	45
V IRISES	56
VI SNOWDROPS, CROCUSES, BLUEBELLS, CHIONODOXAS, ETC.	67
VII HARDY LILIES, THE GALTONIA, AND HARDY GLADIOLI	77
VIII ANEMONES, FRITILLARIES, TURBAN RANUNCULUSES, TRITELIAS, MUSCARI, ETC.	89
IX KNIPHOFIAS, EREMURI, MONTBRETIAS, SCHIZOS- TYLIS, ETC.	100
X ALLIUMS, ORNITHAGALUMS, MEADOW SAFFRONS, SPIDERWORTS, DOG'S TOOTH VIOLETS, HARDY CYCLAMEN, HARDY ORCHIS, SOLOMON'S SEAL, DICENTRAS, CHRISTMAS ROSES, ETC.	107

PART II

GLASS-HOUSE BULBS

CHAP.		PAGE
XI	HIPPEASTRUMS, NERINES, CLIVIAS, GESNERAS, ACHIMENES, CYCLAMEN, ETC.	121
XII	FREESIAS, IXIAS, THE CHILIAN CROCUS, THE EUPHARIS, MORÆAS, ETC.	130
XIII	LILIUMS, CRINUMS, ETC.	140
XIV	BEGONIAS, GLOXINIAS, STREPTOCARPUSES, ETC.	149
XV	TUBEROSES, PANCRACTIUMS, CALLAS, LACHENALIAS, TROPÆOLUMS, ETC.	157

PART III

HALF-HARDY BULBS

CHAP.		PAGE
XVI	SPARAXIS, BABIANAS, TIGER FLOWERS, STERNBERGIIAS, ETC.	171
XVII	BEGONIAS, FRENCH AND PERSIAN RANUNCULUSES, ORNITHAGALUMS, CALOCHORTI, COMMELINAS, ETC.	180
XVIII	AGAPANTHUSES, CAMASSIAS, CANNAS, ETC.	190
XIX	DAHLIAS, AMARYLLIS, MARVELS OF PERU, ETC.	198
XX	ROMULEAS, BRODIEAS, GLADIOLI, OXALISES, ALSTREMERIAS, WATSONIAS, ETC.	207

LIST OF ILLUSTRATIONS

DRAWINGS IN COLOUR

	FACING PAGE
NARCISSI	<i>Frontispiece</i>
Trumpet Daffodil, 'The Doctor'	
Star Narcissus, 'Incognita'	
Polyanthus Narcissus	
HERBACEOUS TULIPS	40
May-flowering, 'Picotee'	
Species, 'Tulipa Clusiana'	
May-flowering, 'Macrospila'	
DAHLIAS	80
New type 'Crawley Star'	
Show Variety 'Marjorie'	
Single-blooming, 'Winona'	
GLADIOLI	128
Hooded Gladiolus	
July-flowering, 'Mrs. G. W. Willock'	
Early-flowering 'Cardinalis elegans'	

LINE DRAWINGS

	PAGE
Single Poet's Narcissus	19
A Spring Bulb Border	20
Bold Colour Bedding-out	27
A Summer Bulb Border	28
Early Tulips, in Box Bed by South Fence	39
Daffodils, and Clipped Shrub, in Tub	50
A Spring Nook	60
A Winter Border	63
A Bed of Many Bulbous Plants	73
Bulbs for Edgings	76

	PAGE
Design for a Broad Bulb Border	84
A Small Garden of Bulbs	85
Uncommon Bulb Beds in Lawn	98
A Garden Corner	101
An Autumn Bulb Border	106
Planting Bulbs between Tree Roots	114
Skeleton Frame for Covering by Oiled Linen	117
Lily Bulb in Need of Division	129
Double Poet's Narcissus	138
Lily in Basket, on Terrace	147
Bulb Border in Greenhouse	156
Arum (Calla) in Need of Division	161
Pots of Growing Sparaxis, after being Buried in Box in Cold Frame	173
Natural Shape Bulb Beds	178
A Sheltered Bulb Garden	184
Reserve Beds for Bulbs	186
Big Bulbous Plants in Lawns	197
How to Start Dahlia Tubers, in Boxes over Hot Pipes	199
Carpet Bedding Designs, for Bulbous and Foliage Plants	215

PART I
HARDY
BULBS

BULB GARDENING

CHAPTER I

ALL ABOUT BULBS

' Believe that every bird that sings,
And every flower that stars the elastic sod,
And every thought the happy summer brings,
To the pure spirit, is a Word of God.'

S. T. COLERIDGE.

WHICH was the first bulb ever planted in a garden ? No answer can be given. It may have been a native Snowdrop, or Lily of the Valley, brought from the woods by some flower-worshipper who was not afraid of being laughed at for his folly. Or perhaps a great traveller brought home from the East either the small golden Amaryllis, or the scarlet Turk's Cap Lily (*Lilium chalcedonicum*), that are now rivals for the honour of having been described by Christ as clothed more gloriously than King Solomon.

All we know surely is that, as civilization grew, so did flowers enter our gardens, and bulbs became precious.

Man has a sad habit of turning the good into evil,

the beautiful into the vile, therefore enthusiasm for blossoms produced rare frauds, and became a species of madness on more than one occasion, but most notably in the Tulip years of the sixteenth century, of which we may read in Mackay's *Memoirs of Extraordinary Popular Delusions*.

By 1634 it was deemed a proof of bad taste for any person of fortune to be without a costly Tulip collection. Great men of science and learning vied with merchants, and even small tradesfolk, in securing new varieties of this often truly 'gilt-edged' flower: the ordinary industries in Holland became neglected, investments suffered, the Arts appealed in vain, because time and money were lavished on—bulbs.

A single specimen of the Tulip named Viceroy was reckoned worth:

Two lasts of wheat,
Four lasts of rye,
Four fat oxen,
Eight fat swine,
Twelve fat sheep,
Two hogsheads of wine,
Four tuns of beer,
Two tuns of butter,
One thousand pounds of cheese,
A complete bed,
A suit of clothes,
A silver drinking cup, or
Two thousand five hundred florins.

‘People of all grades converted their property into cash and invested it in flowers . . .’ Then fashion changed, and the slump came. Many a family had to face ruin as the result of the Tulip mania.

When critics denounce, or jeer, at the modest pound or two sometimes given to-day for the bulb of a new Daffodil, let them remember how moderate is the cost of a luxuriously furnished garden of bulbs now, in comparison with a small bed of Tulips, or Hyacinths, when those were rare in England.

Bulb growing is a hobby helpful to trade in our times. We have many great firms, giving employment to thousands of men and boys, who fetch from afar the flowering plants that are awaiting applause, or perfect, by patient scientific tending, the families of plants that are already in our land. In Sussex, Lincolnshire, Essex, and other counties, bulb-farms have sprung up, to compete with those of Holland and Belgium, so bulb breeding may be welcomed as a modern development of British industry.

Who will declare that flower gardening should cease? Is it not one of the worthiest of hobbies? And, if plants are to be grown at all for their beauty alone, the bulbous section has peculiar claims upon us.

An old book on gardening tells us truly that ‘in one sense bulbs are of more easy culture than any other class of plant, as, the germ being previously

formed, and the nourishment provided in the body of the bulb, it is only necessary to supply heat and moisture to cause these to develop.'

It has been said that the great majority of bulbous blossoms appear to greet the spring; however, the summer is well catered for by *Liliums* and innumerable varieties of such splendid tuberous plants as *Gladioli* and *Dahlias*, which continue gay until the Meadow Saffrons, *Schizostylis*, and Autumn Crocuses usher in the scarcely known true Crocuses of winter, the Christmas Roses, and earliest dainty Irises, which, in their turn, give place to Crocuses of spring, Yellow Aconite, Hepaticas, Snowdrops, and the vermilion giant 'daisies' of *Anemone fulgens*.

If our borders are sombre after September it is only because we do not make sufficient use of these flowers and others, or of the golden and variegated shrubs that are bright as flowers.

Yes, it is true that, once the simple rules of culture are learnt, growing bulbs is very easy, and successes infinitely greater than failures. I believe one reason is that bulbous plants are less subject to illnesses and less attacked by insects.

Lily disease can be prevented by dusting bulbs with a little carbolic powder, or, in my opinion, by watering growing Lilies once a month with rain-water just made black on the surface by powdered charcoal.

Pot plants of many bulbous species become attacked occasionally by green-fly, red-spider, etc., but the use

of a Vapour Cone, to fumigate the greenhouse, twice, leaving one night between the operations, is nearly certain to cure this evil. However, sponging, or spraying, the plants with soft soap and rain-water should be tried first, as it is likely to render the other remedy unnecessary.

Bulbous plants that continue prolific year after year are amazingly cheaper to cultivate than are the ordinary tender subjects used for bedding, or raised annually, like Cinerarias, Primulas, and Salvias, for the conservatory.

There are not many that refuse to decorate our living-rooms as pot-plants, either for months together or for weeks, or days, though certain species, notably the fair ordinary Poet's Narcissus, will not 'force.'

Out in the open we may have to scare sparrows from the early Crocuses, but we shall not be obliged to fight hard with foes, except on the Dahlias' behalf. The coco-nut-fibre refuse mulch, or the cinder-ash, or even the sharp gritty sand that we use among our bulbous plants, keep



SINGLE POET'S NARCISSUS.

away the slugs and snails that crawl constantly to devour Sweet Peas, Pansies, etc.

And what a noble garden the bulb one may be, with its rows of silver Lilies, flaming groups of Red-hot Pokers, lofty spikes of Eremuri, and countless myriad-tinted spearheads of Gladioli!



A SPRING BULB BORDER.

Let us be enthusiasts, then, not as the Tulip maniacs became, but with the wisdom of philosophers and the reverence of true artists. Only a genius can create a perfect flower garden, but—thank God!—it is, after all, merely a matter of combining perfect flowers!

CHAPTER II

HYACINTHS

‘Crocus and hyacinth, with rich inlay
Broidered the ground, more coloured than with stone
Of costliest emblem.’

JOHN MILTON.

IT would be well for us to speak of this grand Easter flower as the Oriental Hyacinth, its scientific title being *Hyacinthus Orientalis*, and the common ones, of Garden Hyacinth, or Bedding Hyacinth, obviously insufficient.

Plants known as Grape Hyacinths, Spanish Hyacinths, Woodland Hyacinths, Tassel, and Feather Hyacinths, will be described in later chapters, as Muscari, Scillas, etc., and the giant *Hyacinthus Candicans* as a *Galtonia*. We will deal now only with the Oriental Hyacinth, double and single, and the dainty little Roman, Italian, and other Miniature Hyacinths. The last are obtainable in most of the colours of the big Hyacinths, except salmon, mauve, purple, maroon, and orange. They are useful because they bloom just a little after the early white Roman,

and before the Hyacinth proper, and can be treated like the former, except that bulbs must be rather further apart in the ground, and not placed as closely in pots, boxes, etc.

The outdoor culture of Oriental Hyacinths is simple. Success, however, is dependent upon the obtaining of sound bulbs of sufficient age ; therefore the purchase of cheap collections is seldom satisfactory. Yet Bedding Hyacinths need not be Gold Medal Hyacinths, any more than a bedding Viola need be as large, or handsome, as a Show Pansy.

For Hyacinth culture in beds, and borders, use any good garden loam that has been some time previously enriched with well-decayed manure. Rank manure must not be encountered by these, or any other, bulbs. If a heavy soil has to be put up with, plenty of river-bed, or clean road-side, sand must be incorporated. The position must be open and sunny. Plant in November, or December, when the soil is neither too dry, nor too wet, but crumbles easily between finger and thumb. Place bulbs 8 inches or more apart, 3 or 4 inches below the surface. Strew 4 inches of coco-nut-fibre refuse over the bed. Chopped furze, or heather, or the softest cinder-ash may be used instead, and I knew one grower who always collected the husks of beech-mast for this purpose. In Holland beds are often covered by straw, tan, or reeds, but these materials are apt to go mouldy. Hyacinths are hardy enough to stand

moderate frosts, but severe ones sometimes cause the bulbs to rot, or the embryo flower-spikes to fail.

Keep the ground pricked over, by hoe or spud.

As a flower fades it should be picked off. The plants must live out until the leaves are yellow and crisp. Then they should be lifted, laid on the flooring of an airy shed, or room, to dry: after which the remains of stalks and foliage can be twisted off them.

Most persons store these bulbs in dry chaff, bran, shavings, or sand; the old method was to lay them, bottom upwards, peaks through the mesh of trellis-woodwork, or wire-netting, shelves.

Any damp or diseased portions must be cut away before storing, and the wounds rubbed with sand.

Except in abnormal early droughts, outdoor Hyacinths should not be watered, but liquid manure may be given, once or twice, when flower spikes are forming and colouring, not when they have developed fully.

For Hyacinth culture in pots bulbs should be ordered that florists will recommend for the purpose, as all varieties are not similarly successful. The compost should consist of equal portions of fibrous loam, old manure chopped fine, and about a sixth part of coarse sand. Place the bulbs, in November or December, almost one-third of their depth exposed, setting the soil firmly round them. Three may occupy a six-inch pot.

Make up a bed of cinder-ashes in a frame, on the

floor of an unheated glasshouse, or on a piece of ground by a south-facing wall, and plunge the pots in this material, so that the bulbs have a three- or four-inch covering. Examine in about two months' time, but keep covered until there is an inch, or rather more, of growth visible. Remove pots then to the greenhouse, frame, or room windows, but accustom the plants gradually to full light.

The temperature for them should be from 50° to 60° for the first week, then it should not be more than 65°, as the best blooms are always from plants not forced quickly.

Let the foliage die down, then put the bulbs into a border somewhere in the garden, for they will be scarcely worth keeping after they have flowered in heat.

There are many flower-lovers who delight in the culture of Hyacinths in glasses.

The first rule to observe is the filling the proper shaped 'glasses' with *fresh* rain-water. If that cannot be had, use main-tap water, which will be safer than water that has stood for days in a rain-water butt. The second rule is to poise bulbs almost invisibly above the water, not touching it. Wire supports are sold for the purpose. The water will need changing every three weeks, or even oftener if it is found to be clouded, or to smell offensive.

Place the bulbs in September, October, or November. Stand the glasses in a dark but airy cupboard until roots have fully formed.

Remove glasses, by degrees, into full light and warmth, of window or conservatory. Turn them round daily. Occasionally moisten the bulb and its growth, either by a sponge or a scent-spray. Plant bulbs out of doors when the flowering is over.

The culture of Hyacinths in moss-fibre and sea-shell is always interesting.

Use the mixed materials quite moist, but not dripping wet, in any bowls or vases, with a lump or two of charcoal at the bottom, and three pea-sized pieces in the rest of the compost.

Lay the bulbs on the fibre, press them lightly into it, fill up with water, stand in any airy, semi-dark place. Examine once a week, giving more water when the fibre seems dry on the top. Failure will have to be recorded if the fibre ever dries up at the base: yet bulbs will rot if kept too wet.

Excess of moisture can be got rid of by laying the receptacles on their sides, slanted so that surplus water can filter out.

Remove the Hyacinths into light when growth is well started.

Double and Single Hyacinths should not be planted or potted together because they are unlikely to bloom simultaneously. Some growers object to cinders coming in contact with bulbs. Cinder-ashes, however, are soft, and always safe.

The pure white Roman Hyacinths, the coloured Italian, and other miniature species, can be grown well

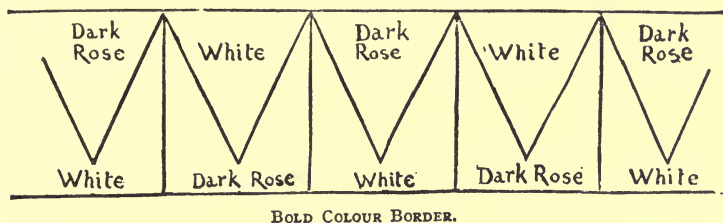
in sheltered beds, borders, and rockeries, but are generally potted to supply winter bloom. They, too, may be cultivated in moss-fibre and sea-shell, and the directions given above can be followed, except that these smaller bulbs require less space, but should be an inch below the compost when in pots, though merely inserted up to their tips when in fibre. Pottings from July to December, at seven- or ten-day intervals, will result in a prolonged harvest season. Bulbs of Roman Hyacinths are no use after flowering—not even for the borders.

Failures are frequent with Hyacinths both outside and in. This can be avoided by realizing that the bulbs must not become loosened in their hold upon soil, must never be sharply frozen, must be protected from rabbits in the open, their young growth from strong gas fumes in the rooms. Also it should be recognized that the blossoms cannot develop or open in a very dry atmosphere. If the scent-spray is not used let indoor Hyacinths be put under clôches, or other glass shades, for a night, occasionally, after being watered. They have brittle stems, which obliges the gardener to supply green sticks and ties when they grow in windy places.

They become too lanky when in pots or glasses placed too far below the window's chief light. They lean sideways unless often turned round in their receptacles.

Massed beds of self-coloured Hyacinths yield dazzling displays in garden landscapes ; beds of two colours

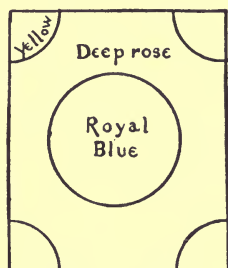
or one brilliant hue with white, are especially striking, and they submit themselves well to pattern forming if the varieties are judiciously chosen, a task in which the bulb vendors should be consulted.



Many varieties are unsuited to culture in water, or fibre and shell.

Single Hyacinths, in addition to Romans and Miniatures, are more popular as cut flowers than formerly, so may be grown fairly close together, in frames, or sunk beds protected by mats or 'lights,' or in large boxes in greenhouses, for this purpose.

Porch tops are suitable for glorious spring displays: a fact of which town dwellers would do wisely to take notice. Window boxes and ornamental tubs and urns can have no fairer fillings. I know one house where, annually, white Hyacinths make a magnificent show thus employed, all the receptacles being of red terra-cotta. Other arrangements



BOLD COLOUR BEDDING OUT.

could combine blue and lilac flowers and yellow pottery, rose and carmine with grey, orange, salmon, and scarlet, with white.

Instead of commonplace beds, in poor grass surrounds, in front gardens, how charming would be sunk beds of stone sides or rockery, between breadths of crazy paving, with every spring made brilliant by the Oriental Hyacinth, to be followed by summers and autumns of Iris, Ranunculus and Gladioli displays!

Our summer-houses ought to be adorned by Hyacinths, in window boxes and door tubs, also closely environing borders, for the perfume in the open is always appreciated.



A SUMMER BULB BORDER.

To attempt to recommend the best varieties for the garden would be merely to provoke contradiction, but gardeners who want a few admirable specimens might do worse than order the following :

DOUBLE OUTDOOR HYACINTHS.

THE FIRST. *Dark rose.*
 SIR JOSEPH PAXTON. *Early deep carmine.*
 PRESIDENT ROOSEVELT. *Deep pink.*
 GROOTVORST. *Blush.*
 MARGOT. *Pure white.*
 BOUQUET ROYAL. *White, extra double.*

ISABELLA. *Blush-white.*
 GARRICK. *Brilliant blue.*
 PRINCE ALBERT. *Black-purple.*
 LORD WELLINGTON. *Light blue, with dark centre.*
 DELICATA. *Pale blue.*
 SUNFLOWER. *Salmon-yellow.*
 MINERVA. *Orange.*
 JAUNE SUPRÊME. *Gold.*

SINGLE OUTDOOR HYACINTHS.

CITY OF HAARLEM. <i>Primrose.</i>	SCHOTEL. <i>Light blue.</i>
KING OF THE YELLOWS. <i>Deep yellow.</i>	CHRISTMAS BLUE. <i>Azure. Early.</i>
SONORA. <i>Apricot.</i>	ARENTINE ARENDSSEN. <i>White. Early.</i>
MARCHIONESS OF LORNE. <i>Salmon-orange.</i>	QUEEN OF THE WHITES. <i>Pure white.</i>
SIR WILLIAM MANSFIELD. <i>Purple-mauve.</i>	GENERAL VETTER. <i>Cream.</i>
DISTINCTION. <i>Maroon.</i>	QUEEN OF THE PINKS. <i>Rose.</i>
SIR EDWIN LANDSEER. <i>Deep violet.</i>	ORANGE QUEEN. <i>Orange-rose.</i>
LORD MAYO. <i>Dark violet, with white eye.</i>	PINK PERFECTION. <i>Pale pink.</i>
LAURA. <i>Pale mauve.</i>	KING OF THE REDS. <i>Carmine, with white eye.</i>
KING ALFRED. <i>Plum purple.</i>	GENERAL PÉLISSIER. <i>Bright crimson.</i>
PRINCESS WILHELMINA. <i>Bright blue.</i>	CHRISTMAS RED. <i>Early red.</i>
MASTERPIECE. <i>Dark blue.</i>	

A FEW SPECIAL-COLOUR HYACINTHS FOR POTS.

LINNÆUS. <i>Light scarlet. Single.</i>	ALBA SUPERBISSIMA. <i>White. Single.</i>
LA VICTORIE. <i>Real scarlet. Single.</i>	GRANDEUR À MERVEILLE. <i>Pale blush. Single.</i>
SOLFATERRE. <i>Orange - red. Single.</i>	BLONDIN. <i>Silvery blue. Single.</i>
VUURBAAK. <i>Dark crimson. Single.</i>	IVANHOE. <i>Very dark blue. Single.</i>
CAVAIGNAC. <i>Salmon, with rose stripe. Single.</i>	VAN SPEYK. <i>Lilac. Double.</i>
GIGANTEA. <i>Rose. Single.</i>	BLOCKSBERG. <i>Light blue. Double.</i>
REGINA VICTORIA. <i>Salmon. Double.</i>	IDA. <i>Yellow. Single.</i>
PRINCE OF WATERLOO. <i>White. Double.</i>	KING MENELIK. <i>Nearly black. Single.</i>

The beds and borders of Hyacinths ought to be given a mulch of decayed manure, preferably cow manure, in February: the old coco-nut-fibre refuse being drawn aside first, then returned, with some fresh, as a cover for the unsightly manure.

It is an admirable plan to grow Hyacinths in what are known as basket-beds, raised beds, that is to say, surrounded by lattice wood, strips of painted wire netting, or held up by stakes of rustic wood. Sloping beds and borders are also excellent, to ensure perfect drainage.

For room ornaments Hyacinths can be grown in wicker, or rush, baskets, that are first lined with old turves, inverted, to prevent the compost from escaping.

Hyacinth bulbs from the garden may be stored for any purpose.

Many bulbs will be found to have made offsets: these should be broken away, at re-planting season, and planted by themselves, in rich, warm borders, or nursery beds (see Chapter XVII). They will flower in two or three years, in all probability.

It is not likely that many gardeners will desire to grow Hyacinths from seed. However, in case advice on the subject may be welcome to the few I will quote from an antique Garden Guide.

‘Seed being rarely procured from double Hyacinths must be saved from those which are single, or semi-double, saved from such plants as have good characters, and should not be gathered till it has become black

and ripe, indicated by the yellow colour of the seed vessel and its beginning to open. Sow immediately, in pots or pans, and place these in a hotbed. As soon as the young plants have produced two leaves, they should be potted singly into thumb pots, or "small sixties" (sixty to a cast of pots). Leave the summit of each young bulb on a level with the surface of the soil. They must then be watered, and shaded for a few days. When the bulbs begin to go deeper into the soil, they should be repotted into large sixties. The shiftings must be repeated when necessary till the plants are at length established in twenty-four sized pots.'

A more modern plan is to sow in boxes of sandy soil in cold frames, or out of doors, in September.

Yet another is to sow directly seed ripens, in sandy rich beds out of doors, protect from all extremes of weather, and mulch with fresh compost occasionally, until the third year, when bulbs are lifted and replanted elsewhere to blossom. Some may bloom before they are four years old, though a Hyacinth bulb is not reckoned mature till it is seven.

Late supplies of Hyacinths can be gained by 'retarding' the October-bought bulbs, by shutting them in air-tight tins, without bran, chaff, or any other covering substance, and standing the tins in cold cellars, or a refrigerator, till January or February, when potting should be done by the usual methods.

It is interesting to recollect that old gardeners of

renown used to insist on using extra deep pots for this flower, believing that great length of root is needed to support fine foliage and bloom-spikes.

Roughened, or 'scrubby'-looking Hyacinth bulbs are often more satisfactory and valuable than are smooth, silky ones.

CHAPTER III

THE TULIP

‘Then comes the tulip race, where Beauty plays
Her ideal freaks: from family diffus’d,
To family, as flies the father dust,
The varied colours run.’

JAMES THOMSON.

TULIPS will thrive in any ordinary garden border that has been manured months earlier; they will fail in freshly manured ground, except when the manure used is sufficiently old and so deep down that the roots can only strike it when they have attained their growth in length. But there is a way to build up tulip beds safely a few weeks before planting: this is by using from a stock of compost prepared in spring, kept out of doors in semi-shade, and turned twice during summer. October is the first planting month, the work being continued throughout November and December. After this, retarded bulbs may be used, which means bulbs that were put as soon as bought (*viz.* September or October) into air-tight dry receptacles and stored in an exceedingly cold place.

To make a Tulip bed thus, the stack has to be built up of equal parts of fresh loam, leaf-mould, old cow-manure, and a half part of river-sand. Some cultivators prefer a whole part of sand.

The garden ground is removed, to a depth of a foot or more, the subsoil forked well and weeded, as weed or tree roots may be as deep as that even. Some pebbles and broken crocks are put in first, for 3 inches of drainage, and then the compost from the stack fills up to the level. It is best to use it fairly coarse and 'tussocky' below, slightly less coarse next, then fine, put through a sieve, for the top inch or two. A good bed is generally raised an inch or 2 inches above the ground level, but extra compost is put on over the bulbs, after they have been well pressed into the bed; and it is also advisable to let the bed be highest along the middle, sloping gently on all sides. A bed like this has to be protected by canvas, or matting, supported over wood or iron hoops, during frosty or very wet weather.

Another kind of bed, or the borders where Tulips grow in ordinarily good soil, has a mulch of coco-nut-fibre refuse, or any other dry covering material used by gardeners, so does not need mat protection.

The first sort of bed may be chosen for culture of extra fine types and varieties of Tulip: the second for all usual kinds and purposes.

Special beds can be built up, to a height of 18 inches, or rather less, on any sort of hard foundation,

pavement, gravel, etc., the sides held in position by inverted turves, wood, wire-netting, tiles, or rocks,

This enables the gardener to have grand displays in courtyards and roof gardens, on poor soil, or balconies.

The ordinary or Garden Tulip, double or single, may be cultivated out of doors, or in frames and unheated glasshouses, or in rooms entirely, if there is enough air (that is pure) and full light and sunshine.

Sunshine, adequate drainage, and fairly nourishing soil are essential for Tulip culture out of doors. Plant bulbs from October to the second week of December, 4 or 5 inches deep, 6 to 8 inches apart. Mulch with dry material, such as coco-nut-fibre, heather, gorse, very ancient manure, bracken fern, or a mixture of hop manure and dried leaves.

If the season is drougthy a watering may be given in March.

The surface soil should be delicately pricked over, by a hand-fork or spud, directly it seems to be getting caked or weedy.

Sticks and ties are needed by all the taller species and varieties. Unless seed is to be saved, spent blooms should be removed, broken off about midway down the stems.

Plants must grow on until the foliage has completely withered up, otherwise the bulbs will not bloom the following year ; but they can be lifted from the ornamental positions as soon as the flowers are over, and

replanted at once in sunny waste borders to finish maturing.

In July the bulbs can be lifted, laid out in sunny attics or sheds, but not directly in the sunshine, for a week, to dry, then be stored in a cool place. If they are exposed to air they become damp, and may sprout, or rot, but if, when properly dried, they are shut into tins or boxes, no harm can result. Offsets should be removed, similarly dried, then planted in sunny borders in November, where they can remain undisturbed the three or four years or so that must elapse before they blossom. Parrot Tulips and Darwin Tulips, which are long-stemmed and very beautiful—the former curiously fringed, splashed, streaked, and green-shaded among gorgeous hues, the latter of innumerable pale or rich hues and satiny petals—may be used for beds to flower later than ordinary Tulips. In the last class, doubles are later than singles, and the miniature, Van Thol Tulips, are earliest of all.

Parrot and Darwin Tulips may be treated as herbaceous plants, left out always in borders, and divided every third or fourth year. So may the various Tulip species, and all the hardy May-blooming Single Tulips, of which bulb vendors can all offer extensive lists.

The ordinary Tulip seldom dies from being left out in the ground, but deteriorates rapidly.

For Tulip culture in pots use a compost of two parts

fresh loam, one of really decayed manure—cow-manure for preference—and half a part of sand. Pot the Van Thol varieties and other earlies first, in September, and in batches at fortnightly intervals till December, for succession; the other kinds from October onwards.

The bulbs should be only just under the surface, and three may go in a five-inch pot.

They must be made firm, yet not rammed hard in the soil.

Place the pots, under 4 inches of cinder-ash or coco-nut-fibre, in cold frames, or boxes indoors, or sunk in cinder-ashes out of doors, until growth shows. Remove then to frames, cold greenhouses, or windows that are not too hot, and commence to supply a little water.

More water and sunshine are needed as growth quickens, and as soon as buds form the Tulips can be forced on in a temperature of from 55° to 65°.

Parrot Tulips can be pot-grown, and forced.

Darwin Tulips can be pot-grown in the ordinary way, if desired, but their proper place is the garden.

Both outdoor and potted Tulips can be given weak liquid manures when making buds. Forced Tulips are often fed once or twice a week, after buds begin to colour, with a solution of a quarter ounce of sulphate of iron in three gallons of water.

For the culture of Tulips in moss-fibre and sea-shell,

the directions respecting Hyacinths may be followed, for which see preceding chapter. Scarlet, white and yellow Van Thols are earliest ; the other coloured Van Thols not being as safe, though often successful.

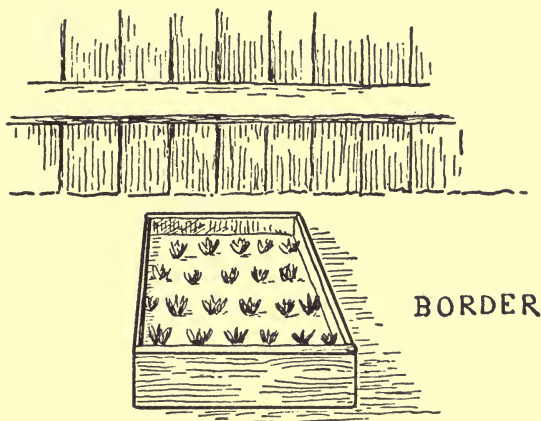
A start should be made in September, with a view to obtaining Christmas specimens. It is fatal to let the roots become dry. Next to place, in bowls, etc., come the early single ordinary Tulips, and some of the earliest Doubles prove satisfactory. Singles and Doubles should be kept apart.

When arranging beds of Tulips the variegated foliage varieties should not be forgotten, as their leaves make such admirable settings for the gay blossoms. If a bed is wanted to look charming for many weeks the Early, Mid-Season, and Late Garden Tulips can be blended, and all plants removed as they become unsightly, leaving the field to their brethren who are less precocious. As before explained, the lifted Tulips will not take any harm if they are planted in reserve borders to finish their drying off, which means also their bulb-ripening.

As these flowers are ideal ones for vase filling, quantities should be grown in boxes for gathering, also in what are known as box beds by south walls. These resemble sunk frames, but can be covered inexpensively by lengths of oiled linen instead of by lights, at such times as the plants require protection.

Nor need they be shaped like frames : four lengths of wood, cut 10 inches deep, joined at the corners of the oblong, and sunk 2 inches in the border, will make protecting sides and ends.

As the level of such a bed is below that of the garden, frosts are less injurious. Dutch, or Formal Gardening is generally carried out considerably, for spring, with



EARLY TULIPS, IN BOX BED BY SOUTH FENCE.

Tulips and miniature clipped Shrubs. They are capital companions, too, in tubs and urns, while Tulip window-boxes afford beautiful displays both in town and country.

The charm of 'herbaceous' Tulips will astound flower-lovers who have no knowledge of any but the early garden Tulips. Added to rockeries and mixed borders, they result in splendid colour splashes.

SOME LOVELY TULIP SPECIES AND VARIETIES.

TULIPA GREIGI.	<i>Dazzling orange-scarlet.</i>	TULIPA FLORENTINE.	<i>Yellow.</i>
TULIPA PERSICA (or BROWNIANA).	<i>Yellow, with brownish back to petals.</i>	TULIPA BILLIETIANA.	<i>Gold-tipped clear yellow, scarlet base.</i>
TULIPA TURKESTANICA.	<i>White.</i>	TULIPA KOPAKOWSKYANA.	<i>Yellow, with rose reverse.</i>
TULIPA SAXATILIS.	<i>Rose, with yellow centre.</i>	TULIPA RETROFLEXA.	<i>Yellow, with curled petals.</i>
TULIPA MAURIANA.	<i>Scarlet, with yellow centre.</i>	TULIPA VIRIDIFLORA.	<i>Pale lemon-green.</i>
TULIPA PRÆCOX.	<i>Crimson-scarlet, black centre.</i>	TULIPA VITELLINA.	<i>Primrose-white.</i>
TULIPA SPHRENGERI.	<i>Vermilion.</i>	TULIPA ELEGANS.	<i>Deep crimson.</i>
TULIPA MACROSPILD.	<i>Crimson-scarlet.</i>	TULIPA ELEGANS ALBA.	<i>White, slightly edged rose.</i>
TULIPA PICOTEE.	<i>White, rose-edged.</i>	TULIPA GESNERIANA MAJOR.	<i>Crimson-scarlet, nearly black centre.</i>
TULIPA PRÆSTANS.	<i>Orange-vermilion.</i>	TULIPA GESNERIANA LUTEA.	<i>Yellow. Perfumed.</i>
TULIPA OCULIS SOLIS.	<i>Crimson, black centre.</i>	TULIPA GESNERIANA OCULATA.	<i>Crimson, with white eye.</i>
TULIPA KAUFMANNIANA.	<i>White, flushed with deep rose, yellow centre.</i>	TULIPA GESNERIANA ROSEA.	<i>Rosy red.</i>
TULIPA HAAGERI.	<i>Red, black centre, with yellow.</i>	TULIPA GESNERIANA AURANTIACA.	<i>Orange-red and yellow.</i>
TULIPA CLUSIANA.	<i>White, streaked with red.</i>	TULIPA FULGENS.	<i>Blood-crimson, very tall.</i>

Other May-flowering hardy Tulips are classed as Bizarras, which are yellow, flaked and streaked with white or other colours Bybloemens, of white foundation marked with black, purple, violet, or lilac; Roses, which have scarlet or rose markings on white,



HERBACEOUS TULIPS

May-flowering Tulip
 'Picotee'
 (White, rose edged)

Tulip Species
 'Tulipa Clusiana'
 (White, streaked with red)

May-flowering Tulip
 'Macropsila'
 (Crimson-scarlet)

and Feathered Tulips: all of which are edged by colours.

The Rembrandt Tulips are a fine hardy class to order for beds or borders, to bloom late; some, such as Semele, rose, are self-coloured, others, such as Sirene, with brown and white slashes on a white ground, and the lilac and carmine Butterfly, offer other effects. As a rule the Tulip species of the preceding list need sunshine and the shelter of rockeries, or from small shrubs or near walls and hedges, while Rembrandt, Darwin, Parrot Tulips are quite robust.

All the last are beautiful, but connoisseurs may like to select from the following:

SOME PARROT TULIP VARIETIES.

CRAMOISIE BRILLIANT. <i>Crimson and black.</i>	PRECIOSA. <i>Deep red and gold.</i>
PERFECTA. <i>Yellow, streaked with crimson.</i>	MONSTRE ROUGE. <i>Scarlet.</i>
LUTEA. <i>Yellow.</i>	CONSTANTINOPLE. <i>Red, with yellow tips.</i>
CAFÉ BRUN. <i>Yellow striped brown.</i>	MARKGRAAF VON BADEN. <i>Red and yellow broadly flushed.</i>
	RUBRA MAJOR. <i>Crimson.</i>

Terraced gardens the beds of which are tulip-filled shine out from afar, yet one small bed in a cottage foreground may contain prize specimens.

It is impossible to give lists of the best doubles and singles, for early and mid-season and late bloomings, but I suggest that self-beds of any of the following will be either of exceptional brilliance or especially rare colour.

GRAND SINGLE TULIPS FOR BEDS.

KEIZERKROON. <i>Crimson-scarlet and gold.</i>	LE RÊVE. <i>Cream and rose blend.</i>
KOH-I-NOOR. <i>Deep red.</i>	L'UNIQUE. <i>White and lemon striped.</i>
LA REMARQUABLE. <i>Purple.</i>	GOLDEN QUEEN. <i>Rich gold.</i>
LEONARDA DA VINCI. <i>Orange, edged yellow.</i>	THOMAS MOORE. <i>Apricot-orange.</i>
COLEUR PONCEAU. <i>Cerise-crimson and white.</i>	VAN DER NEER. <i>Purple</i>
BRILLIANT STAR. <i>Scarlet, black centred.</i>	VAN BERGHEM. <i>Rose.</i>
ENCHANTRESS. <i>Wine-red and rose.</i>	PROSERPINE. <i>Salmony rose.</i>
FABIOLA. <i>Rosy-violet, with white feather markings.</i>	PRINCE OF AUSTRIA. <i>Orange-scarlet.</i>
FLAMINGO. <i>White, flaked with cherry.</i>	OPHIR D'OR. <i>Lemon-yellow.</i>
JOOST VAN VONDEL WHITE. <i>Immense white.</i>	M'KINLEY. <i>Vermilion-orange and carmine.</i>
	POTTER. <i>Dark violet.</i>

GRAND DOUBLE TULIPS FOR BEDS.

TURBAN. <i>Violet, with yellow centre.</i>	LE MATADOR. <i>Orange-scarlet.</i>
ROSE D'AMOUR. <i>Pale rose.</i>	COURONNE DES ROSES. <i>Deep rose.</i>
BRIMSTONE. <i>Lemon shaded with salmon.</i>	BOULE DE NEIGE. <i>White.</i>
CHERRY RIPE. <i>Cherry-red.</i>	AGNES. <i>Scarlet.</i>
IMPERATOR RUBRORUM. <i>Scarlet-crimson.</i>	TOURNESOL RED. <i>Scarlet with yellow edge.</i>
LACQ OF HAARLEM. <i>Rosy-violet.</i>	DUKE OF YORK. <i>Dark rose, bordered white.</i>

The following list suggests a few varieties of the long-stemmed, hardy, late-blooming 'Darwins':

SOME HANDSOME DARWIN TULIPS.

LA TULIPE NOIRE. <i>Black.</i>	BARONNE DE LA TONNAYE. <i>Rose and white.</i>
CITY OF HAARLEM. <i>Vermilion.</i>	CORDELIA. <i>Carmine-violet.</i>
FRANZ HALS. <i>Blue violet.</i>	<i>Scented.</i>
CLARA BUTT. <i>Pale rose.</i>	DOROTHY. <i>Heliotrope-shaded</i>
WHISTLER. <i>Blood-red.</i>	<i>salmon-lilac.</i>
W. COPELAND. <i>Heliotrope and</i>	MR. FARNCOMBE SANDERS. <i>Cherry-scarlet and white.</i>
<i>rose.</i>	KING HAROLD. <i>Deep crimson</i>
PRIDE OF HAARLEM. <i>Carmine.</i>	<i>and violet.</i>
GUSTAVE DORÉ. <i>Rose.</i>	REV. H. EWBANK. <i>Heliotrope-</i>
LEOPOLD DE ROTHSCHILD. <i>Chestnut.</i>	<i>grey and white.</i>
ERGUSTE. <i>Deep heliotrope.</i>	SALMON KING. <i>Cochineal-red,</i>
BRONZE QUEEN. <i>Bronzy-gold.</i>	<i>white centre.</i>
KATE GREENAWAY. <i>Lilac and</i>	THE BISHOP. <i>Purple-blue.</i>
<i>white.</i>	<i>Expensive.</i>
ANTONY ROOZEN. <i>Rose, with</i>	THE SULTAN. <i>Maroon-black.</i>
<i>blue and white centre.</i>	

It is noteworthy that Darwin Tulips can be pressed into service for the wild garden, or positions in semi-shade; although not seen at their best except in sunshine they are willing to live and bloom in well-drained ground even beneath tall deciduous trees, the white-and-lilac, heliotrope, and violet, with the black, in the brightest glades, the vermilion employed to cheer banks of the hedgerow, perhaps, with pinks, bronze-golds and carmines edging mossy tracks up hill and down dale.

Tulips can be raised from seed, sown from October to February, in pots in frames. It is best to plunge these to the rims in cinders, so that by moistening

this bed occasionally the soil in the pots is just prevented from drying up. As soon as leaves have come and died down for the first time, the tiny bulbs should be taken up, stored for a month or so, then planted in a prepared bed or border in the sunny garden. By setting them in drills or lines, 6 inches row from row, 2 inches bulb from bulb, and fixing a label at either end of the row, the gardener will finish his job neatly, and be able to weed without imperilling the baby Tulips. Next time the bulbs have produced leaves and these have withered, replanting, after a month or two's storing, should give each bulb an inch more room. Any offsets should be broken off and planted separately. So culture continues, with increase of space, for 4 to 7 years. Juvenile blooms *may* appear in the fourth season, but first blooms are usually self-coloured, and give no idea of what a plant will ultimately bear: streaks, blotches, shadings, edgings, appear in later years, to determine both the character and the value of the blossom.

Another method of culture allows the youthful Tulips to die down and merely be mulched over with fresh compost the first year, not being lifted, dried, and replanted, till after the second leaf production.

Seed is ready to harvest when the capsule containing it is cracking ready to burst. This will be about the middle of July. The pods must be kept in a dry place and not opened till the seeds are required for sowing.

CHAPTER IV

DAFFODILS AND OTHER NARCISSI

‘ Shrine of colour ! Golden sweetness,
Angel of the Spring that cries
Other radiance to arise.
Little poem of completeness
From the mind of God, Who knows
How to fashion sphere and rose.’

HON. ELEANORE NORTON.

SCIENTISTS classify Narcissi in many divisions, subdivisions, as well as species, which enable the kinships, shapes, habits, etc., to be well understood, and the positions of new-comers clearly defined. But the amateur gardener need not trouble to learn all these terms, unless anxious to take up the culture of the Narcissus family as a special hobby. It will suffice to grow, and love, a few beauties belonging to the differing classes.

The first Narcissus thought of in Narcissus season is the Polyanthus, or Bunch-flowered, no doubt, which brings exquisite scent to cheer us during winter, exquisite petals to predict the advent of many more spring flowers. The gardener who brings the follow-

ing to perfection, in beds, borders, pots, boxes or bowls, will have every reason to congratulate himself on an easy triumph. For culture is quite simple.

THE BEST POLYANTHUS NARCISSI.

PAPER WHITE 'SNOWFLAKE' IMPROVED. <i>Pure white, fine for forcing.</i>	GRAND MONARQUE. <i>White, with citron cup.</i>
GRAND SOLEIL D'OR. <i>Yellow, with orange cup. Forces capitally.</i>	HER MAJESTY. <i>White, with orange cup.</i>
EARLY DOUBLE ROMAN. <i>Double white. Another good variety for forcing.</i>	JAUNE SUPRÊME. <i>Bright yellow.</i>
	APOLLO. <i>Apricot-gold and yellow.</i>
	WHITE PEARL. <i>White, with very pale lemon cup.</i>

These can all be grown as though they were Oriental Hyacinths, so Chapter II should be consulted for details. But potting can be begun as early as August, which should result in November bloom. Few gardens can boast of beds, or long border lines of these Bunch Narcissi, yet they flourish in all but the coldest places, and it is easy to protect them a trifle by laying a little straw, or bracken fern, lightly among them as the growth begins. They will die off if there is rank manure in the soil. As they flower in March and April naturally, rock-cresses (Aubrietias) are their best carpets or edgings, offering shades of blue-lavender, deep purple, crimson, heliotrope, pale rose, etc., etc.

There are many other varieties of Polyanthus Narcissi, but those recommended are representative of the colourings.

In considering other species of *Narcissus*, including the single and double Trumpet Daffodils, we may reckon that small bulbs should be covered with soil, out of doors, to a depth of 3 inches, larger ones to a depth of 4 inches, and still bigger ones to a depth of 5 inches. These directions apply, of course, to bulbs that are large or little according to nature, not according to age. And in gardens of very sandy or gravelly soil slightly deeper planting is often advisable.

Juvenile bulbs, either cheap youngsters sent out on purpose, or offset bulbs from the home collection, can be planted as deep as full-grown ones of their race would be, however, without injury, and left undisturbed in borders, or banks, to attain maturity. But they must not be expected to flower until then.

Bulbs should be only *just* soil-covered when potted, or the pointed 'noses' may just show: this being one way in which the culture differs from that of the Hyacinth. Culture in bowls may be identical for the two bulbous plants. Trumpet Daffodils that can be pot or bowl grown, either slowly or gently forced, include these.

DAFFODILS FOR EARLY BLOOM.

NARCISSUS PSEUDO-NARCISSUS.	NARCISSUS P.N. GOLDEN SPUR.
<i>The old English Daffodil.</i>	<i>Deep gold. Large.</i>
NARCISSUS P.N. OBVALLARIS.	NARCISSUS P.N. PRINCEPS.
<i>The Tenby Daffodil.</i>	<i>Sulphur yellow and pale lemon.</i>
NARCISSUS P.N. SINGLE VAN	NARCISSUS P.N. EMPEROR.
SION. <i>Large.</i>	<i>Primrose and yellow. Fine.</i>

NARCISSUS P.N. HORSFIELDII. <i>White and yellow.</i>	NARCISSUS P.N. HENRY IRVING. <i>Yellow.</i>
NARCISSUS P.N. VAN WAVEREN'S GIANT. <i>Golden.</i>	NARCISSUS P.N. MONARCH. <i>Gold.</i>
NARCISSUS P.N. P. R. BARR. <i>Two shades of gold.</i>	INCOMPARABILIS PLENUS. <i>Double yellow.</i>
NARCISSUS P.N. WEARDALE PERFECTION. <i>White and lemon.</i>	VAN SION. <i>A finer double yellow.</i>
NARCISSUS P.N. MADAME DE GRAAF. <i>White and large.</i>	SULPHUR PHŒNIX. <i>Sulphur and white.</i>
NARCISSUS P.N. KING ALFRED. <i>Giant yellow.</i>	ORANGE PHŒNIX. <i>Orange and yellow.</i>
NARCISSUS P.N. PRINCESS IDA. <i>White and cream. Erect grower.</i>	ALICE KNIGHTS. <i>New variety. Nearly white.</i>
	THE DOCTOR. <i>Pale and deep gold.</i>

When these have been dealt with, in sending an order to a bulb merchant, let the lovely Star-shaped 'Stella,' or Chalice-cupped Daffodils be chosen among. The scientific, or 'advance' title is *Narcissus Leedsii*, and there are now great numbers of varieties. As we all know, the 'Stella' *Narcissi* in our mixed borders are often in bloom even before the single Daffodils; they can be gently forced, too.

VARIETIES OF 'STELLA' NARCISSI.

STELLA. <i>The good old free bloomer.</i>	MINNIE HUME. <i>Lemon-white.</i>
STELLA SUPERBA. <i>An improved kind.</i>	LULWORTH BEAUTY. <i>White, with orange-vermilion cup.</i>
WILL SCARLET. <i>Ivory, orange, red edged, but about two shillings a bulb.</i>	GLORIA MUNDI. <i>Gold and orange.</i>
LUCIFER. <i>White and orange-red.</i>	DUCHESS OF WESTMINSTER. <i>White, lemon, orange tinted.</i>
SIR WATKIN. <i>Primrose and gold.</i>	WHITWELL. <i>White and deep gold.</i>
	BLAZING STAR. <i>Deep yellow, and red.</i>

Of these the Duchess of Westminster, and the old form of Stella, are, I consider, the best for the amateur gardener to try to force a little.

Other very beautiful Short-cupped or Star Narcissi are :—

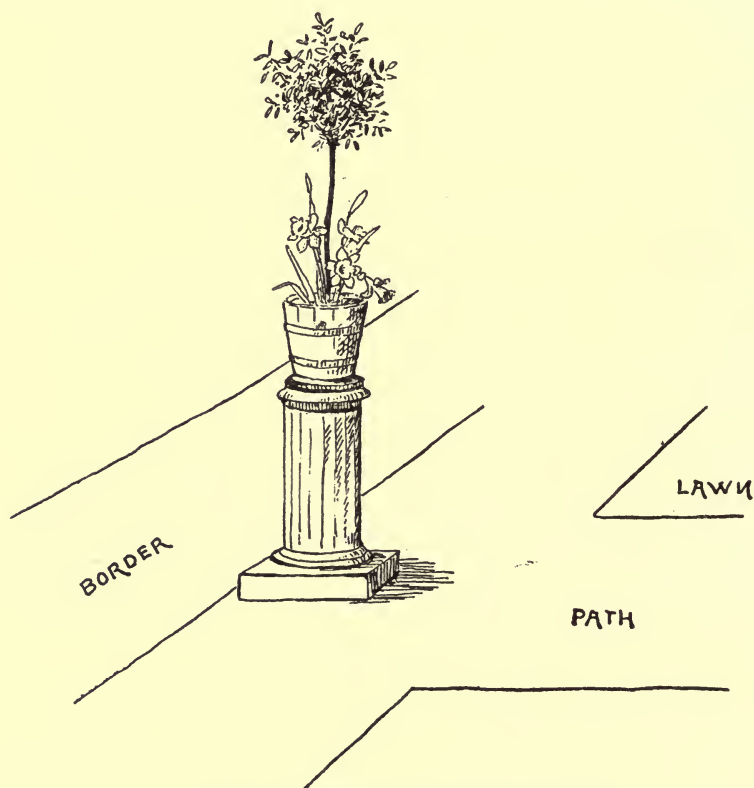
ADONIA.	<i>Primrose and orange.</i>	SUNRISE.	<i>White, lemon, and</i>
ELGIVA.	<i>Lemon and apricot.</i>		<i>orange-scarlet.</i>
FIREBRAND.	<i>Creamy-white and</i>	WHITE STAR	<i>White and</i>
	<i>red.</i>		<i>lemon. Beautiful but expen-</i>
INCOGNITA.	<i>White with yellow</i>		<i>sive.</i>
	<i>cup.</i>		

Of course, it ought to be always recollected that hand-lights, or clôches, dropped over patches of Daffodils and other Narcissi, in beds and borders, will hasten the opening of their buds out of doors.

We have arrived now at the popular Pheasant's Eye, or Poet's Narcissus, possibly to discover, with surprise, that our clever florists have done wonders with it. But, first, let us realize that we must never try to force the double kind, and shall probably come to grief with any attempt with the single.

However, while reserving *Narcissus poeticus*, and *Narcissus alba plena odorata*, for beautifying the pleasure grounds, we may make use of *Poeticus ornatus* pretty much as we like. It is white, sweet-scented, and has a dainty scarlet edging to its cup. There are 'improved' varieties now—but the man or woman must be very captious who desires this exquisite *Narcissus* to possess daughters fairer than herself.

Blending Narcissi bulbs with Hyacinth and Tulip bulbs (mid-season Tulips answer best) is a means of gaining noteworthy beds, and tub or pot ornaments.



DAFFODILS AND CLIPPED SHRUB, IN TUB.

Maybe Daffodils and other Narcissi never look quite so lovely as when filling glades in shrubberies, yet—who can decide? The Poet's Narcissus is a dream when

dotted liberally over a rock garden, when congregated in avenue-lines on either side of a broad gravel walk, when massed in window-boxes, when seen in wide rings in round beds.

Daffodils thrive under deciduous tall trees, are especially charming close by silver birches or almonds, and do not resent the close companionship of evergreen shrubs. They will even live and blossom, year after year, close to an ivied wall, seemingly uninjured by that 'poisonous' drip from ivy leaves that has murdered many millions of other flowers of countless families.

It is a pity that Jonquils are so neglected.

To begin with, Jonquil perfume is unique ; enthusiasts know that there are degrees of merit even in that, though, for the scent of the double deep golds is richer than that of the older ordinary yellows, and the late *Rugulosus*, called an Improved Double Campernelle, smells like a common of golden gorse in July.

Then there are the rush-leaved little Jonquils, slender, with small star flowers, yet tall, that blossom in clusters. *Jonquilla* is the best, perhaps, but *Odorus Campernelle* must not be omitted from any good border of *Narcissi*. These can be cultivated in pots or bowls, too, and mildly forced, but no *Narcissus* should be subjected to more than 55° to 65° of heat : the earliness, so precious, is obtained more simply by placing the bulbs in soil or fibre, early, as already described. They can be fed, like Hyacinths, with weak liquid

manure when flowers appear. The double varieties of the golden Jonquils are equally easy to cultivate.

Cyclamen-flowered Daffodils, known also as Angels' Tears, are little gems mostly fit only for growing in pots, cold frames or semi-shady rockeries. The type plant is *Narcissus Triandrus albus*. Some peat in the soil is advisable. It should be planted from June to October, 3 inches deep, and about 7 inches apart, there to remain until seen to be deteriorating, which will not occur until the third or fourth year. A mulch of dry cow-manure and leaf-mould should be put round the plants each July. They are charming, set five bulbs in a six-inch pot, but must be grown in cold frames or unheated conservatories. I find the best treatment is to sink the pots up to the rims in a shady cinder-bed, that can be shielded from excessive rain, as soon as the flowers fade, and return them to frames or glasshouses, in July.

There are now hybrids—one, Queen of Spain, discovered in Spain, others produced by expert growers by crossing *Narcissus Triandrus albus* with various Daffodils—and these may be naturalized in grass under trees, or potted, or grown in peat-fibre, in bowls. They are creamy yellow or lemon, trumpet shaped, coming in pendant clusters, and are often called Cyclamen-flowered Daffodils; the actual *Narcissus Cyclamineus* is the tiny yellow Cyclamen Daffodil of Portugal.

Hoop Petticoat Daffodils, *Narcissus Bulbocodium*

and hybrids, grow but 6 inches high as a rule, can be cultivated like Angels' Tears, but do not need peat, and may be closer together. Of course the shady spots they inhabit must be properly drained, or the bulbs will rot and disappear. .

The Chinese Sacred Lily is still a popular kind of Narcissus for indoor culture in bowls or tall vases of sea-shell, or sand, and water. The receptacle must be half-filled with the material, the bulb is laid on this and supported in place by a few pebbles, then water is floated on to just cover the shingle. This water has to be changed once a week, a tepid supply being given. The bowls stand anywhere in airy darkness until leaves begin, when they should be introduced by degrees to light. The great charm of the Sacred Lily is that it will blossom in about six weeks under this culture, but the bulbs exhaust themselves, so are useless afterwards.

Narcissi are propagated from offsets, of course, in which case those of the different varieties and species can be cultivated like their parents, but must not be expected to give blooms while juvenile; or they can mostly be relegated simply to reserve plots, or border portions, neither too shady nor too sunny, too damp nor too dry, there to develop without further attention except the being kept clear from weeds.

The propagation of Narcissi from seed is a process requiring patience. As a noted bulb merchant wrote, in 1904: 'If any lovers of these flowers wish to try

to raise seedlings, let me remind them that it takes from four to seven years to get a *Narcissus* to bloom from seed, and a further period of two or three years before it is seen in its true character. . . . If they *do* succeed in raising anything better than is already in commerce, and grow it on carefully for eight or ten years, they would have little or no trouble to get from £100 to £250 for the stock, or to dispose of the bulbs at £5 to £10 each.'

Prices rule higher since Mr. Robert Sydenham made this calculation. After giving the fascinating note that the famous *Horsfieldii* Daffodil was originally found in a Lancashire weaver's garden, he added :

'The best way to grow *Narcissi* seedlings is to sow the seeds about half an inch apart each way in small square boxes or pans, from 6 to 12 inches square and about 6 inches deep. Keep them just moist, and shaded from hot sun. They will not want shifting for the first two years, and should be placed in a cold frame the first winter or two, otherwise many, and most likely the best, will be killed by frost. After the second year they should be planted early in August, in well-prepared beds, 5 inches apart, and there remain until they flower.'

All the hardy *Narcissi*, including Daffodils, may be naturalized in turf, or planted, and then sown between with grass seed of the fine types. Each hole for a bulb should be made of requisite depth, prodded beneath to loosen the foundation earth, and a little

coarse sand thrown in on which to set the bulb. A covering in is done with good compost, free from the least recognizable manure, then the turf can be lightly relaid all but over the place where the bulb growth will first pierce.

As bulb foliage always has to yellow and die down, no mower must remove the leaves until they are ready to crumble of their own accord. Either hand shears must be used among the Narcissi, or the grass allowed to be wild for a time.

CHAPTER V

IRISES

'As the Iris to the Bluebell, as the Heather to the Ling,
As the Sunshine to the Twilight, so is Summer to the Spring.'

ALAN B. HAIG BROWN.

I HAVE thought it best to deal with some of the Rhizomatous Irises in this chapter, as well as with the Bulbous. After all, rhizomes can be broken into pieces for increase of stock, just as one detaches offsets from bulbs. And the inexperienced gardener (or perhaps 'semi-educated' would be the more suitable term) looks upon all Irises as bulbous plants, so would miss the 'Germans,' etc., and wonder what had become of them. No critic will be so captious, I hope, as to dislike a well-cultivated bulb garden because there are rhizomes, corms, or tubers in it as well as positive bulbs.

Some Irises require sunshine combined with ample moisture, conditions often offered by water-margins and bogs; or these will succeed in deeply built rockeries, where crags and slabs so shelter the soil as to keep it from drying at base.

IRISES FOR DAMP SOIL, IN SUNSHINE.

IRIS KÆMPFERI or JAPANESE. Innumerable lovely self shades and blends. Flowering in July and August.

IRIS FÆTIDISSIMA. The Gladwyn Iris. Brown-purple flowers, followed by pods bearing scarlet seeds, these being greatly valued for drying off for the winter vases. Will flourish also in semi-shade.

IRIS MONNIERI. Yellow, tall. June and July.

IRIS PSEUDO-ACORUS. The common Yellow Water Flag. Tall. May and June. There is a primrose variety, and a kind with silver-variegated foliage.

IRIS SIBIRICA. Siberian Irises are white or blue, or blue, cream and violet blends. They are often 4 feet tall, and make lovely masses during June and July.

IRIS TECTORUM. The Japanese Roof Iris. Blue or white. Suitable also for dry borders and rockeries, but comes finest when in damp ground and full sunshine.

IRIS FULVA. Bronze-red. June and July. Medium height.

IRIS OCHROLEUCA GIGANTEA. Yellow and white; a magnificent garden ornament.

Many a neglected, weedy, wet-soil garden could be transformed into a superb summer scene by the aid of Irises, such as the above, in the open positions, arranged in big groups, separated by 'carpet' spaces of Pansies, with Solomon's Seals and Daffodils for a spring effect among these, certain Liliiums (see Chapter VII) and Montbretias, with Meadow Saffrons beneath, for autumn. And the shady positions in wet gardens, those eye-offending puzzles, even the miserable end borders of slanted ground under deciduous trees, can have their fair flowers too.

IRISES FOR DAMP SOIL BENEATH TREES.

- | | |
|---------------------------------------|--|
| IRIS FÆTIDISSIMA. <i>The Glad-</i> | IRIS GERMANICA. <i>Similarly</i> |
| <i>wyn Iris.</i> | <i>treated for the majority of the</i> |
| IRIS PSEUDO-ACORUS. <i>The tall</i> | <i>plants, but some planted per-</i> |
| <i>Yellow Flag.</i> | <i>manently in slightly raised</i> |
| IRIS KÆMPFERI. <i>Japanese—if</i> | <i>beds.</i> |
| <i>grown in pots elsewhere and</i> | |
| <i>sunk in the soil when budding.</i> | |

It will be observed that the individualities among Irises are as great as among human families or nationalities. Generally speaking, the Iris is a sun-lover, and there is danger of bulbs decaying when they are exposed to wet during winter as well as during the summer-time in which many species require it. But every chance of beautifying the worst places in our gardens ought to be tried: for which reason flower enthusiasts should experiment with bulbs, and not grudge the cost of a few failures when a few fresh triumphs will win them renown as well as pleasure.

The gardens that give trouble are not always wet and shady; there are those of light soil, sun-baked, perhaps on hill-sides where moisture runs away, or hill-tops that are nearer fierce sun than are valleys. Well—the Iris family can send individuals to even their aid.

IRISES FOR HOT ARID GARDENS.

IRIS TECTORUM. *The Japanese Roof Iris. Blue, also white.*

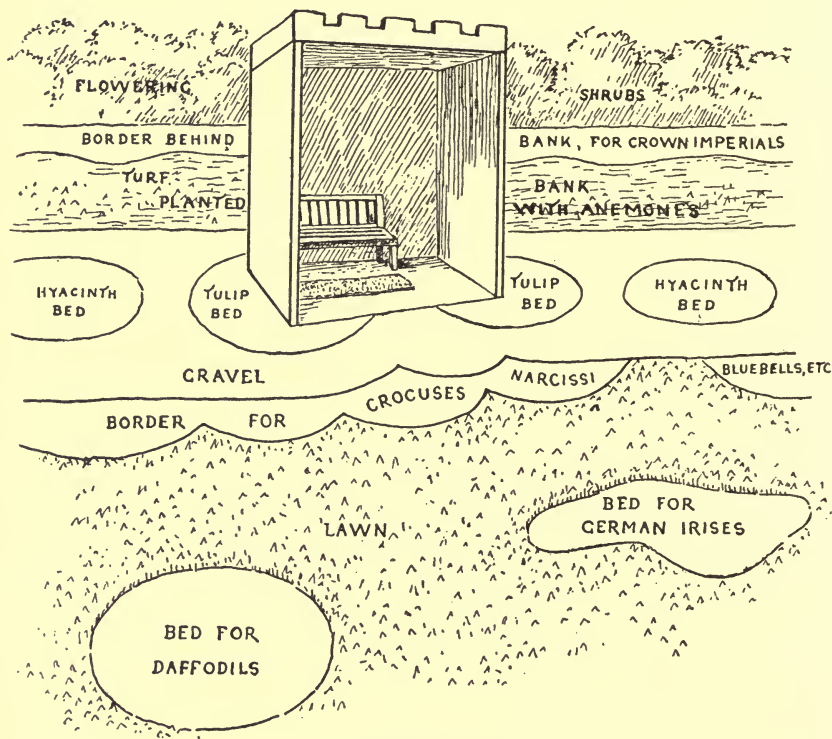
CRIMEAN IRISES. *These vary in height from a few inches to half a yard, the variety Venacensis (violet) often reaching that stature, but the majority are about 10 inches, and the most suitable for flat ground in heat. The lesser varieties prefer a rockery, where the soil does not become too sand-like. The following suggest some admirable colours.*

CRIMEAN IRISES CHAMÆIRIS CYANEA, *blue-violet, 1 foot, and ALBA, ivory, FORMOSA, violet-blue, 1 foot; GRACILIS, grey-heliotrope, 9 inches; LUTESCENS, yellow, 15 inches; MELPOMENE, claret-red, 9 inches; ALBIENSIS ALBA, cream, 18 inches; ORANGE QUEEN, gold and orange, 1 foot; URANUS, violet-blue and crimson, 12 inches.*

As for the Irises that can be grown in the sunny, well-drained borders in most localities, and in sunny rockeries with even greater security, their name is legion. We all know the Poor Man's Orchid, or Spanish Iris, one of the cheapest of all floral charmers, so there is no need to say more, except to advise the trial of the best named varieties, which any renowned bulb merchant will supply upon request. This Iris is finest when left out for three years, yet it is not absolutely certain to survive winters, so is often lifted and stored each autumn. I never treated my 'Spaniards' so, because I hold the theory that all flowers that can be induced to live entirely out of doors should be made to do so; and I am convinced that any failures with mine resulted from the loosening

of the roothold by fork or hoe, an indignity that the Iris will not endure.

English Irises are larger, handsomer, and longer



A SPRING NOOK.

lasting both on the plant and in the cut state. Their bulbs ought to be lifted every second year, unless soil and climate conditions are perfect, and, even so,

the overcrowded clumps will not throw the best blooms.

There is interest in some remarks made on the English Iris by M'Intosh, the famous gardener, in 1840 :

'The flower is coming into repute, both from the beauty of its blossoms and their great variety, for, from the natural blue of the wild flowers, it has sported into every shade of white, violet, rose, blush, lilac, blue, purple, red, cherry, and crimson, both self colours and shaded, mottled and striped, in the most beautiful manner. It is very easy (according to Mr. John Salter, in the *Horticultural Journal*) to manage this Iris, as it will grow in almost any soil, but succeeds best in a well-sweetened compost, formed of sandy loam, with a portion of leaf-mould or very rotten manure from an old melon-pit. The beds should be exposed to the east or the north-east. Every corm has one, two or more offsets, and in a general way it is advisable for the roots to remain two seasons in the same ground. It produces abundance of seed, which ripens at the end of July and beginning of August, when it may be gathered, dried, and sown in September or October in drills in a very light sandy soil. The following spring the young plants will appear above ground, and will form, during the first season, corms about the size of garden peas. These should not be disturbed till the third year, when they may be removed to the bed where they are to bloom, which

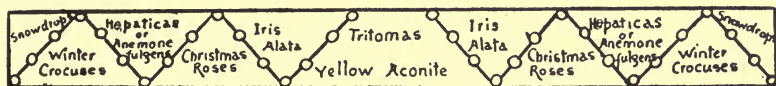
will sometimes be in the fourth, but more usually in the fifth or sixth year, from the time of sowing. It will forward the bulbs to top-dress the beds with fresh earth in August.'

This long extract from an old-world gardening book will serve as sufficient instruction for the seedling-raising of Irises in general, though modern culture is more often pursued in cold frames than in the garden ground.

IRISES FOR SUNNY WELL-DRAINED BORDERS OR ROCKERIES.

- | | |
|--|--|
| IRIS TUBEROSA. <i>Quaker's Head</i>
<i>Iris. Green and black.</i> | IRIS VERSICOLOR. <i>Lilac-purple.</i>
<i>Also florists' varieties.</i> |
| IRIS SUSIANA. <i>The Mourning</i>
<i>Iris. Deep purplish-brown</i>
<i>and black.</i> | IRIS FLORENTINA. <i>White, lilac</i>
<i>shaded.</i> |
| IRIS MISSOURIENSIS. <i>China</i>
<i>blue.</i> | IRIS PERSICA. <i>White, blue,</i>
<i>purple, gold blend. Early.</i> |
| IRIS MONSPUR. <i>Cambridge blue,</i>
<i>light blue. Tall.</i> | IRIS HISTRIO. <i>Blue - purple.</i>
<i>Early.</i> |
| IRIS MONSPUR PREMIER. <i>Vio-</i>
<i>let. Tall.</i> | IRIS RETICULATA. <i>The Netted</i>
<i>Iris. Violet and gold. Early.</i> |
| IRIS MONSPUR DOROTHY FOS- | IRIS SINDJARENSIS. <i>Light blue.</i>
<i>Early.</i> |
| TER. <i>Violet-blue. Tall.</i> | IRIS ALATA. <i>The Scorpion Iris.</i>
<i>Pale blue and yellow. Winter</i>
<i>blooming.</i> |
| IRIS SETOSA. <i>Violet.</i> | IRIS STYLOSA-SPECIOSA. <i>Blue</i>
<i>and gold.</i> |
| IRIS FLAVESCENS. <i>Yellow.</i> | |
| IRIS SPURIA. <i>Blue. Three feet.</i> | |
| IRIS PALLIDA. <i>Purple and</i>
<i>lavender. Tall.</i> | |

The last six Irises are winter or earliest spring flowers, and can be hastened by having glass shading of any kind over them when their buds are just appearing and till the blooms fade. Or these, also Spanish Irises, may be potted, from September to November, five bulbs, 2 inches deep, in a six-inch pot. The compost should be a blend of equal parts of loam, peat, leaf-mould and sand, but Spanish Irises can do without peat. So too, if necessary, can English Irises, which should go three into a seven-inch pot, or singly in a five-inch one.



A WINTER BORDER, WITH SMALL SHRUBS.

The pots should be put into frames, windows, or cold greenhouses, the soil in them only just covered by coco-nut fibre refuse to keep it from drying too rapidly. When flower spikes are forming the Irises may be put in a greenhouse where the temperature is moderate. As the flowers fade, water must be lessened, discontinued as the last bloom dies, and then the pots should be placed on their sides on sunny shelves for a few weeks. The old bulbs can be dropped into corners in the rockery, but fresh ones must be bought for next season's potting.

Many of the rhizomatous, as distinct from the

bulbous Irises—notably German Irises,—make handsome pot and tub plants, but should not be planted lower than just below the soil, which will not require peat ; also they are best sunk in their pots in cinder beds out of doors.

The depth to plant Iris rhizomes or bulbs, out of doors, will vary according to their size and the situation. Three inches deep is a good average. In very light sandy borders a greater depth is often desirable : in wet, claggy ground rhizomes are usually placed only just below the surface. Spanish Irises and the winter-blooming Irises will grow and bloom in moss-fibre and sea-shell, in china bowls without drainage.

It is surprising how few persons grow the winter Irises in window-boxes, pots on window-sills, or in ornamental garden urns. A show of flower may be kept up from November to April, by combining Irises *Alata*, *Stylosa-speciosa*, *Reticulata*, and *Histrio*. They associate beautifully with Winter Crocuses (see Chapter VI), Christmas Roses, Snowdrops, yellow Winter Aconites and Hepaticas.

Most Irises should remain in beds or borders *untouched as to roots* until they are seen to be weakening, when lifting, division, and replanting elsewhere, or in renewed soil in the same place, should be undertaken. That is the great secret—prevent the roots of the bulbs and rhizomes from receiving any disturbance at other times. Mulching is safe ; a layer of old cow-manure in October protects, or one in February stimulates.

Weak liquid manures can be given when buds are beginning to colour.

Seldom do we see properly grown German Irises, or any of the chief beauties of their family. Nine persons out of ten are, I believe, unaware that these Flags are ever anything but purple! A bed of the mauves, blues, brown terra-cottas, orange and gold, crimson-purple, and indescribably exquisite white and 'blends' might raise many a villa front garden far above the commonplace.

The Iris is very suitable for adorning roof gardens, in artificial or banked-up beds and borders, in rockery mounds, pots and tubs, and also in old wall pockets and simulated gutterings. Arrange for there to be 9 inches of soil for the roots, then the aperture or 'pocket' need not be wide. The Japanese Roof Iris, *I. tectorum* is best of all, in blue or white, but I have grown the January to March blossoming lavender-blue *Iris stylosa* in wall nooks, also the tiny species *Iris Albiensis alba*, white, known usually as a dwarf Crimean Iris, I believe, and the amethyst-blue *Iris cristata*.

If Spanish Irises were more mingled with other kinds of bulbs in front garden borders there would be no break in the flower-show between the late *Narcissi* and Tulips and the bedding-plants put out in June, or the host of herbaceous flowers that open during May and the following weeks would find themselves among graceful and beautifully coloured comrades.

It might well be recognized that Spanish and English

Irises, the early white Florentine Iris, and some others, are plants that invalids may grow entirely in their rooms. The bulbs do not need to be hidden away in the dark or cinder-bed plunged, only to be kept cool, not dried up, yet not much watered, until growth starts : then any light airy place, out of direct sunshine, suits the plants ; finally, the flower-table in the sunny window may hold them.

CHAPTER VI

SNOWDROPS, CROCUSES, BLUEBELLS,
CHIONODOXAS, ETC.

‘Who dreamed the frozen mould
These elfin cups might hold?
Amethyst, ivory, gold!’

AGNES S. FALCONER.

THE fact has scarcely been realized, or at least has not been sufficiently stated in gardening literature, that immense effects are to be gained from very small flowers: that, viewed in one light, they are more effective than are many of our popular large flowering plants.

Take the Giant Sunflower as an example. The golden blossoms are grand against blue sky, but what a dreary length of stem and mere foliage mass supports them, and how they need carpeting round in order that the cheerfulness of their beds or borders shall be secured!

Take the blue Chionodoxa as example of a small flower that produces displays bound to be remembered. The Cornflower colour, laid over yards of ground, in

shrubby glades, on bank sides by the house windows or doorsteps, on rockeries that flank the carriage sweep, in belts in border fronts, over plots beneath almond or orchard trees, as bold rings round golden-privet clumps, or as lawn beds, will not let itself be forgotten.

Gardeners waste the smaller bulbous plants habitually by using them too cautiously or scattering large quantities in little groups about the borders.

Think of a long grass walk in earliest spring, then picture it fully flanked by *Crocus* gold, *Chionodoxa* blue, the white of *Snowdrops*, and if you possess a turf path at all you will be unsatisfied till you have laid foundations for this glory. I can almost say that merely narrow edgings of *Crocuses* are an abomination! Only those who have seen fields of the violet, blue, red-purple, mauve, white, know how we dishonour a flower of tremendous possibilities.

The *Snowdrop* is dear to us for several reasons: its earliness and pluck in piercing the frosty earth, its message of hope, the fact that the type, *Galanthus Nivalis*, was once an English wildflower; but for these facts we might reasonably choose to give white *Crocuses* its space in our grounds. Of course, the fact that it thrives under tall trees gives it extra value, but for earliest results it must be in sunshine.

The Italians love the 'Snowbell'; the Russian version, *Galanthus Plicatus*, a native of the fields

of the Crimea, is smaller than *Galanthus Nivalis*, but goes on later in the year. Bulbs of this are cheap, and I recommend them for extensive use in the grass of orchards and wild gardens: the flowers, though greenish, and not pure white, are on stems often 6 inches long, so are useful for the vases.

There is a double variety of *Galanthus Nivalis*, also one (*Galanthus Imperati*) that is really quite tall and very fine; yet undoubtedly the loveliest Snowdrop is the big globular *Galanthus Elwesii*.

Plant Snowdrop bulbs 2 inches deep and 2 inches apart, or closer if desired, and do not interfere with them in any way for years, not until they prove to you, by yielding very scarce blooms, or puny ones, that they require division. Mulch round them each December with a mixture of leaf-mould and really decayed manure.

Pot Snowdrop bulbs 1 inch deep and 1 inch apart any time from September to December, and cover with cinder-ash or coco-nut fibre refuse, in frames, or sink in a cinder-bed until growth begins, when admit light, and introduce into very moderate greenhouse warmth, in the shade, as soon as buds have formed; or else grow on entirely under cold conditions. Pans are as good as pots for Snowdrop culture, and occupy less space in frames.

The first Crocuses that should engage attention are *not* Meadow Saffrons, as so many persons believe.

AUTUMN-BLOOMING CROCUSES.

CROCUS SATIVUS.	<i>Violet-purple.</i>	CROCUS PULCHELLUS.	<i>Lavender</i>
CROCUS SPECIOSUS.	<i>Blue.</i>		<i>and white.</i>
CROCUS LONGIFLORUS.	<i>Peach-</i>		
	<i>mauve.</i>		

These should be planted in August, if possible, 2 inches deep, 3 inches apart, and left alone for years, except for the spring mulch of old manure that will strengthen the plants. Or they *may* be lifted, after blooming and dying down naturally, and be replanted the next August. It is a fine plan to add them, also the following, to all rockeries.

WINTER-FLOWERING CROCUSES.

CROCUS IMPERATI.	<i>Violet-</i>	CROCUS ANCYRENSIS.	<i>Deep gold.</i>
	<i>straw-black purple blend.</i>	CROCUS SIEBERI.	<i>Lilac and</i>
CROCUS BIFLORUS.	<i>Lilac-white.</i>		<i>yellow.</i>

The three last are generally earlier than the first. Plant them in September.

SPRING-FLOWERING CROCUSES.

CROCUS SUSIANUS.	<i>Gold, veined</i>	CROCUS BARON VON BRUNNOW.	
	<i>black. Early.</i>		<i>Bright blue.</i>
CROCUS LILACEUS.	<i>Lilac, white</i>	CROCUS MONT BLANC, or KING	
	<i>bordered.</i>	OF THE WHITES.	
CROCUS PURPUREUS GRANDI-		CROCUS MARGOT.	<i>Rosy helio-</i>
FLORUS.	<i>Deep purple.</i>		<i>trope.</i>
CROCUS NON PLUS ULTRA.	<i>Vio-</i>	CROCUS QUEEN OF SHEBA.	<i>Gold.</i>
	<i>let, tipped white.</i>	CROCUS VULCAN.	<i>Pale blue.</i>

CROCUS ALBION. <i>Blue, striped with purple.</i>	CROCUS CLOTH OF GOLD. <i>Yellow.</i>
CROCUS KING OF THE BLUES. <i>Deep blue.</i>	CROCUS CLOTH OF SILVER. <i>White, striped with violet.</i>

For massing, the gardener can merely order spring Crocuses according to colour, but for beds, window-boxes, urns and potting, named sorts are much better worth cultivation. Plant or pot from October to December; the earlier-located garden bulbs will do best. The ground should be rich, but without any new manure. The compost may consist of equal parts of loam, leaf-mould, and sand, with a half part of ancient manure in small fragments. I have grown very fine Crocuses, indoors and out, by using half a part of fertilized Hop Manure instead of any other; and Crocuses in the garden seem to revel in a mulch of mixed leaf-mould and Hop Manure applied in January.

Treat potted Crocuses in the usual way—namely, sinking them under cinder-ashes or other safe material, and admitting light by degrees when growth shows. Commence to water them with the same precautions. Do not attempt any rapid forcing, but they may go into ordinary glasshouses, or sunny south-room windows when buds are developing.

Crocus foliage must yellow and dry off naturally; then it can be twisted off. Gardeners often tie it into knots first, thinking it looks less unsightly, but the unnaturalness of this is odious, in my opinion. The

right way to hide the eyesore is to lay the leaves flat, peg them down even if necessary, and cover them in with dry coco-nut fibre refuse or dry earth. Patches of Crocuses, of course, can be given plants for neighbours that will spread out in spring and kindly cover their foliage decay. Double or single white Arabis, Yellow Alyssum Saxatile, Pansies, Violas, Forget-me-nots, are suitable.

Crocuses may be cultivated in moss-fibre and sea-shell in undrained bowls and saucers, by the usual recipe for this style of room decoration. They will grow and blossom, too, in coco-nut fibre refuse, Hop Manure, and sand.

Bulbs out of pots and bowls should be planted in the garden.

Crocuses have a way of rising in the soil out of doors, and getting lost: mulches of compost may be needed, or the gentle pushing back of bulbs when ground is moist. Division and replanting ought not to be required oftener than every fourth year.

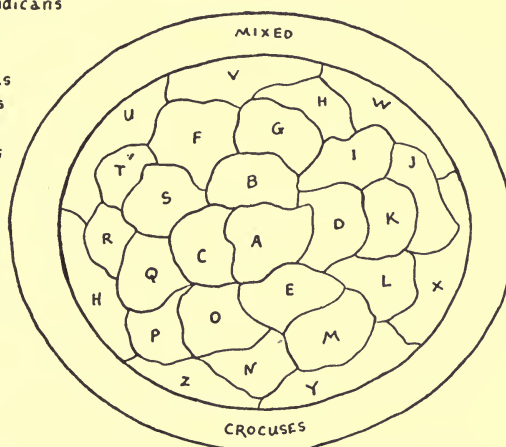
Seeds are freely made, and may be gathered, dried slightly, stored in sand, and sown just under sandy soil, in frames or nursery-beds, in September. Seedlings bloom when from three to five years old. In the second early September the seedlings should be transplanted.

Sparrows may peck at the early Crocuses, especially at the gold; in which case a little black cotton should

be stretched across, from one small stick to another. In making beds or borders of mixed bulbous plants, designed to show *some* bloom at all times of the year, the great value of the Crocuses will deserve special recognition. Their gaiety and charm entitle them to positions close by our dwellings.

- A Hyacinthus Candicans
- B Kniphofias
- C Eremuri
- D Cactus Dahlias
- E Single Dahlias
- F Double Dahlias
- G Madonna Lilies
- H Montbretias
- I Orange Lily
- J Gladioli
- K Spanish Irises
- L Turk's Cap Lilies
- M Darwin Tulips

- N Double Daffodils
- O Pompon Dahlias
- P Poets Narcissi
- Q Stella Narcissi
- R English Irises
- S Day Lilies
- T Polyanthus Narcissi
- U Crocuses
- V Tulips
- W Hyacinths
- X Allium Neapolitanum
- Y Bluebells
- Z Snowdrops



A BED OF MANY BULBOUS PLANTS.

'Bluebells' are not always blue, that is the strange truth; for send to a florist for pink or white 'bluebells,' to accompany the old familiar blue, and he will supply them. But the gardener who wishes to be an adept at bulb ordering as well as at bulb growing so as to have a feast of exquisite bell flowers of spring, can make use of this list.

BEAUTIFUL SCILLAS.

SCILLA NUTANS. <i>Old English</i> <i>Bluebell.</i>	SCILLA CAMPANULATA RUBRA. <i>Deep rosy red.</i>
SCILLA ITALICA. <i>Azure blue,</i> <i>perfumed.</i>	SCILLA PYRAMIDALIS ALBA. <i>Tall white.</i>
SCILLA CAMPANULATA ALBA, or BELL-FLOWERED. <i>White.</i>	SCILLA PYRAMIDALIS ROSEA. <i>Tall rose.</i>
SCILLA CAMPANULATA CÆR- ULEA. <i>Blue.</i>	SCILLA HYACINTHOIDES. <i>Hand- some, deep blue.</i>
SCILLA CAMPANULATA ROSEA. <i>Pink.</i>	

I imagine no British flower garden can be considered really satisfactory in spring unless some of the above are present. They flourish in sun or shade, best in semi-sunshine such as that which filters through branch-interstices of lofty deciduous trees, and lies down green glades of woodlands at certain hours of day in summer, autumn, and spring. The winter sunshine, unobstructed by foliage, ripens the bulbs in the ground.

Then we can grow Scillas that are popularly known as Squills, the very early bloomers of the race. There is no truer blue flower than the little *Scilla Sibirica*, that blossoms usually a trifle before the *Chionodoxa* for the 'gladness of azure' is blended, somehow, with the richer hue called 'royal.' Or we may make use of the pure white kind. Yet the still more dwarf blue or white *Scilla bifolia* generally beats '*Sibirica*' in a competition for earliness.

These can be cultivated in pots or bowls, as though they were Crocuses.

The 'bluebells,' and the 'bell-flowered' Scillas just described, should be grown only out of doors, or in pots, like Tulips. But there is no need to lift the bulbs.

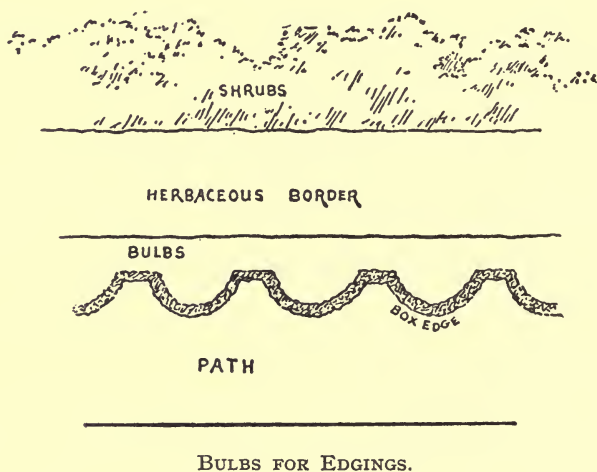
Lastly, the garden should be enriched by a show of the summer-blooming Cuban Lily, *Scilla peruviana*, either blue or white, which form free-flowering and quite handsome plants. Or these may be potted like Oriental Hyacinths, but well under the soil.

By the by, it is luxury in house-front decoration to possess three or four sets of window-boxes, grow plants in them all, but place in position on the sills only those, of course, that are beautifully furnished with leaf or flower. If this is done, boxes of Crocuses and small shrubs are ready to lift away as soon as boxes of Bluebells or of bell-flowered *Scilla Campanulata* are ready to go where they came from; boxes of Spanish Irises may arrive next, and boxes of *Scilla peruviana*, the Cuban Lily, probably just a little later than the Irises, will amaze people who are unacquainted with their charm.

Most of the Scillas grow easily from seed, as may be guessed by recollecting what plantations of the Bluebell appear uninvited in gardens where a few bulbs have been formerly admitted. Seed should be sown as soon as ripe, in sandy beds, or boxes in cold frames, and will bloom in three or four years.

Scillas can be increased by removal of offsets. I have seen a fine colour contrast effected in window-boxes with a south aspect by mingling bulbs of blue *Scilla peruviana* and the orange Bobart's Lily, *Bobartia Aurantiaca*. The latter blooms from June to August, is 1 foot high, needs lifting and drying off after it has flowered, and replanting in October, 3 inches deep.

Mixed spring bulbs make beautiful edging belts to Herbaceous Borders, and a border devoted to groups of all the known spring-blooming bulbous plants is indeed a lesson in floriculture!



CHAPTER VII

HARDY LILIES, THE GALTONIA AND HARDY GLADIOLI

‘ Before the feet of the dew
There came a call I knew,
Luring me into the garden
Where the tall white lilies grew.’

CHARLES G. D. ROBERTS.

THE Madonna Lily is a feature of the garden we ill could spare ; the perfume is as healthy as seductive in the open air, the way the petals glisten makes the flower appear luminous by night, positively brilliant under the moon, and there seems a marvellous spirit-touching peace about the snowy spires. Yet there are many other Lilies quite as fair and as hardy, non-expensive, permanent, easy to manage, that we seldom find in any but great gardens ; simply, no doubt, because amateurs, and their homely country gardeners, do not realize their chances.

At a Village Flower Show I overheard a lady of importance telling visitor after visitor, ‘ Yes, those are the Greenhouse Lilies, you know,’ while standing in

front of a group of the white, pink, and crimson spotted *Liliums Speciosum*.

In a sense Greenhouse Lilies they are, but they attain greater perfection in a deep, rich, sunny border.

That is one secret—give Lilies deeply dug ground ; pulverize the soil a yard down, lay 6 inches of old cow-manure on a base 18 inches deep, then put in equal mixed quantities of loam, peat, leaf-mould, absolutely dried-up old manure, pulled into little pieces, and coarse roadside sand. If the land is damp and not particularly well drained, raise the bed or border 3 or 4 inches above the ordinary level : in which case lay the manure 14 inches deep, instead of 18, lest the roots fail to reach it. Plant Hardy Lilies in October, or November if unavoidably delayed. The one exception is that familiar kind, the Madonna Lily, or St. Joseph's Lily, *Lilium candidum*, which requires installing in August, whether by division of existing clumps or introduction of new bulbs. It may be some trouble to make a Lily bed, but once it is accomplished there is scarcely any work for years, except the weeding that any ground must receive. Be sure to cut down the yellowed stems after the blossoms and leaves of the flower stem have faded, water in times of drought only, lay a few inches of old strawy manure over the beds or borders each November, and give liquid manure every week when buds have formed if you wish for extra fine blooms. No great labour, surely, consider-

ing that Lilies may be a magnificent show every summer.

HARDY LILIUMS FOR SUNNY BORDERS.

- LILIUM CANDIDUM. *Madonna Lily. White. June.*
- LILIUM LONGIFLORUM GIGANTEUM. *White. June and July.*
- LILIUM PARDALINUM. *The Panther Lily. Scarlet and yellow, with brown-purple spots. July. Very tall.*
- LILIUM PARRYI. *Gold, spotted with sepia. Scented. July.*
- LILIUM KRAMERI. *White, flushed with pink. July.*
- LILIUM BROWNII. *White, with brown-marked reverse. July.*
- LILIUM HENRYI. *Yellow and orange. Tall. July.*
- LILIUM GIGANTEUM. *White, of an ivory shade. Very tall. July and August.*
- LILIUM UMBELLATUM ERECTUM, (or DAVURICUM). *Scarlet and yellow. June and July. There are also crimson and black varieties.*
- LILIUM THUNBERGIANUM GRANDIFLORUM. *Scarlet. June and July. Only 12 to 15 inches.*
- LILIUM THUNBERGIANUM ATROSANGUINEUM. *Deep red.*
- LILIUM THUNBERGIANUM CITRINUM. *Gold, spotted with black.*
- LILIUM THUNBERGIANUM AURANTIACUM MULTIFLORUM. *Orange.*
- LILIUM CANADENSE. *Canadian Lily. Yellow. July.*
- LILIUM BULBIFERUM. *Orange. Only 2 feet. July.*
- LILIUM AURATUM. *The White Golden-rayed Lily of Japan. White, spotted with crimson and gold. Tall. August.*
- LILIUM AURATUM PLATYPHYLLUM. *White ground, with red-spotted yellow belt.*
- LILIUM AURATUM RUBRO VITTATUM. *White-spotted and striped with crimson.*
- LILIUM AURATUM WITTEI. *Pure white, with gold bands.*
- LILIUM HARRISII. *The Bermuda Lily. White. July.*
- LILIUM POMPONIUM. *Scarlet. May. 2 feet.*
- LILIUM CHALCEDONICUM. *Scarlet Turk's Cap Lily. July.*
- LILIUM PYRENAICUM. *Yellow Turk's Cap, black-spotted. July.*

- LILIUM SPECIOSUM (or LANCI-FOLIUM) ALBUM. *White. July.*
- LILIUM SPECIOSUM (or LANCI-FOLIUM) ROSEUM. *White, pink-spotted. July and August.*
- LILIUM SPECIOSUM RUBRUM. *White and crimson. July and August.*
- LILIUM SPECIOSUM MELPOMENE. *Crimson and white, spotted purple. August.*
- LILIUM TESTACEUM. *Apricot. Scented. Very tall. July and August.*
- LILIUM TIGRINUM. *The Tiger Lily. Orange-vermilion, spotted with maroon and black. July to September.*
- LILIUM TIGRINUM PLENUM. *Double.*
- LILIUM TIGRINUM FORTUNEI. *Orange-vermilion, spotted with crimson.*
- LILIUM WASHINGTONIANUM. *White, shaded with lilac. Scented. July and August.*
- LILIUM CROCEUM AURANTIACUM. *The Cottager's Orange Lily, spotted with black. July.*
- LILIUM BATEMANNII. *Apricot-rose. August and September.*

All the above Lilies can be grown in pots, and flowered in cold frames, unheated conservatories, or airy rooms. *Lilium Harrisii* and some others can be gently forced—'Harrisii' is got to bloom at Christmas by potting it in August and introducing it to heat when it is budding, but it will flower in early spring if September potted, and placed later on in the greenhouse from which frost is just excluded. But, while other Lilies are kept dry after being potted, this species will die under the treatment. Gardeners who find it difficult to keep Lilies safely all winter may buy bulbs, and pot them in January and February. A compost of equal parts of loam, leaf-mould, peat, old cow-manure, and sand may be used, but some growers prefer one part loam, one part peat, half parts each of sand and manure. There must be adequate 'crocking' for draining, a few

THE
GARDEN
OF
THE
FUTURE



DAHLIAS

New Shape
'Crawley Star'
(Rosy Salmon)

Show Dahlia
'Marjorie'
(Yellow and buff, tipped red)

Single Dahlia
'Winona'
(Dark Red)



pieces of charcoal among the crocks, the compost should be rather coarse throughout, and a sprinkling of soot over it all is beneficial.

Never fill a pot for a Lily more than two-thirds, then place the bulb or bulbs and cover them in 1 inch. The rest of the space in the pot is needed for top-dressing as the growth reaches a height of a few inches, and then more a little later. This is because *Lilium* roots come to the surface and require covering in. Place one bulb of a big Lily, such as *Lilium Auratum*, or *Harrisii*, in a six-inch pot, or a five-inch if greatly preferred, or three in an eight-inch or a ten-inch. Plunge the pots in cinder-ash, etc., as for other bulbous plants, out of doors or in cold frames; or else use baked moss, *made* damp. In any case, damp the material occasionally so that it never dries up, but give ample air to prevent any danger of the bulbs rotting.

Lilies in pots should be allowed to die down as naturally as those in the garden, after which the yellowed flower-stem and foliage must be twisted off, and the bulb or bulbs can be shifted into a larger pot, or similar-sized one, care being taken not to lay them bare by shaking all the old compost off them in the process. Let them stand out in sunshine while they are dying down, and—though they must never actually dry up—slant tiles over the compost to keep excessive rains from it. Or lay the pot-plants on their sides, upon gravel or pavement, out of doors.

It is good to give weak doses of liquid manures, fertilizers, soot water, or guano solution, as buds form.

When Lily clumps have been undisturbed for four years it is probable that the next blooms will be poor, unless the space between the bulbs originally was much greater than the ordinary. As mentioned earlier, *Lilium candidum* suffers when this is not discovered till autumn, root disturbance then often resulting in the death of a whole group : August is the month for dividing and replanting this Lily—October for others.

Sometimes there are objections to giving *Liliums* fresh sites every four years ; if so the stale earth should be carted away, perhaps to top-dress the Herbaceous Border, and the old site made up with quite new material, as recommended for the making of Lily beds.

The complaint is often made that Lilies of some sorts, as well as *candidum*, miss a year in blooming. Examination of gardens generally proves that these have been growing where hot sunshine has failed to reach the soil above their bulbs during summer. The finest Madonna Lily displays are those in hot places, where artificial feeding is given, and the soil is deep and good. But there is a great deal to be said in favour of using these Lilies to adorn semi-shady borders, because when they do blossom they are extra precious in the less floral districts of the garden. Consequently I believe in flowering them once in shady spots, moving them to sunny ones directly afterwards,

and planting newly obtained bulbs, or bulbs from overcrowded clumps in sunshine, in the positions left vacant.

There is no need to go into details here about diseases that attack the Lily, but the amateur grower would do well to water his, say once a month in the warm months, with water in which a pint (dry measure) of charcoal and a quarter ounce of carbolic powder have been steeped for twelve hours in every gallon.

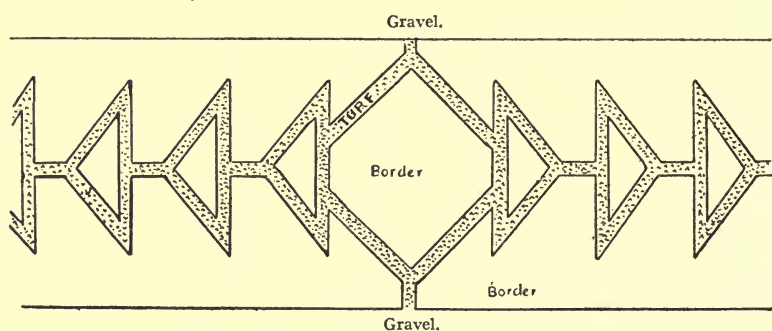
When offsets are taken from large bulbs of Lilies the wounds left, even if they do not look like wounds, should be rubbed with wetted clay, just to make a thin paste over them, before they are replanted. Offsets can be put 2 to 3 inches deep, in sandy ground, and, after their first leaf production and dying down of leafage, may be added to the outskirts of the plantations of their kinsfolk.

All the Lilies of the garden that relish peat-mould may be grown among Rhododendrons and Hardy Azaleas, with a foreground of heathers, the Auratums and Tiger Lilies suiting especially well with the rich hues of the shrub blossoms.

Where slugs abound the Lily beds are best made safe by being strewn with sharp cinders when young growth is expected. Supposing *Lilium* bulbs to be over-dry when bought, let them lie, not quite covered, in moistened coco-nut-fibre refuse for a few days or a week, to swell up before they are planted. Needless to say Lilies are suitable lawn ornaments, indeed a

group in a bed just large enough to contain them might admirably replace many a commonplace specimen shrub, or mangy clump of Pampas Grass.

One of the grandest borders I ever saw was flanked on each side by gravel walks, had turf strips marking out geometrical patterns along its whole length and for edging, with Lilies and Dahlias used alternately as furnishing for the principal centre spaces.

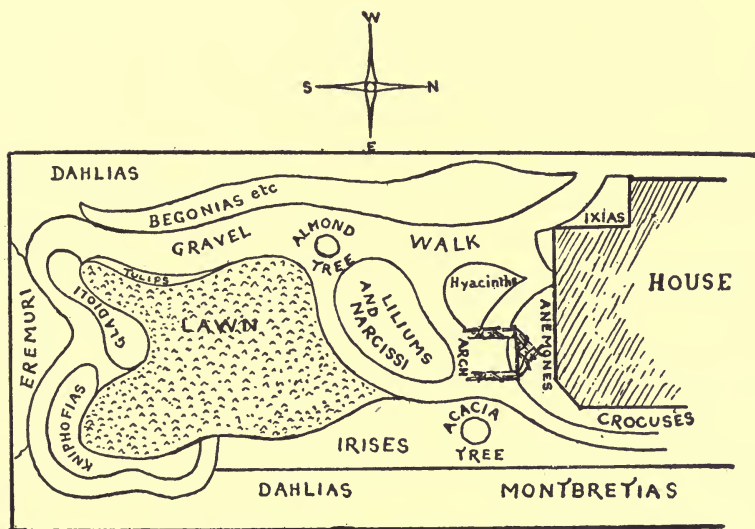


DESIGN FOR A BROAD BULB BORDER.

Now and then I have come across real little Bulb gardens, generally portions of big estates, or gardens within gardens. The idea is one that should be carried out much oftener, and the Lilies share with Eremuri and Kniphofias (Spire Lilies and Red-hot Pokers) the glory of giving chief height.

Some attention is to be given in this chapter to Hardy Gladioli, but for remarks on the kinds of Gladiolus mostly cultivated in beds and pots, Chapter XX should be turned to. My reasons for relegating

them to the parts on half-hardy bulbs can be well explained by a quotation from a book published before 1864: 'The wild European species, *Gladiolus communis*, is perfectly hardy in England, and delights the eye in summer by its tapering spikes of bright red



A SMALL GARDEN OF BULBS.

flowers. The bulbs are corms, like those of the Crocus, and only require separation and replanting at intervals of several seasons. Of late years several foreign and highly ornamental species of *Gladioli* have been introduced, and from these not a few showy hybrids have been raised. They are all more or less tender, safest under pot culture, or in raised beds covered by

shutters or sashes in winter, requiring light soil and the complete absence of moisture during their period of rest. If ventured out in the open ground, they must have a well-drained spot, and be covered in winter with 6 inches of dry litter, sawdust, or withered leaves. Established thus, they bloom magnificently, but there is always the danger that some unusually severe frost, or extraordinary continuance of cold and wet, may destroy the whole collection. Deservedly admired specimens are *G. cardinalis*, *psittacinus*, *grandiflorus*, *gandavensis*, *blandus*, *versicolor*, *Colvillei*, and *ringens*, besides varieties and hybrids too numerous to specify here.'

If the experiment of permanent planting of the delicate *Gladioli* is tried, it should be in south-wall borders, or very sunny rock-gardens, and dry dead leaves should be heaped over them during winter.

Another author, of even earlier date, gave this description :

'The common corn flag (*Gladiolus communis*) is too tall a flower to be overlooked, and it has a long spike of bells, of elegant shape and bright pink colour. Several varieties of this species are in cultivation, but some of the less general kinds are more brilliant. The superb corn flag (*Gladiolus cardinalis*) has rich scarlet flowers, spotted with white, and the different orange coloured species are very showy. Almost all our garden *Gladioli* are natives of the Cape of Good Hope ;

but these flowers are not limited to that part of Africa, but are to be found scattered over the vast deserts of that country. Backhouse describes one which he saw in Caffraria, which had dense spikes of flowers of a dingy hue, covered with minute purple spots ; and other travellers have named them as blooming in all shades of yellow, pink, and brown colours, among the brilliant blossoms which enliven these arid lands. They have bulbous roots and long sword-shaped leaves : the latter suggested their botanic name, from *gladiolus*, a sword.'

The common Corn Flag, as a matter of fact, is gay magenta-red, and very worthy of culture. If the reader can obtain quantities of different hardy species, and add them to his Herbaceous Border and Rockeries, he will provide a treat annually for himself and his friends !

Gladiolus segetum, rosy cerise, is a delightful shade for filling table vases.

The *Galtonia*, mostly known as *Hyacinthus candicans*, a hardy plant of often more than four-foot stature, sends up spikes of handsome fragrant white blossoms from June to October. It may also be cultivated in pots, one bulb put into each pot of six-inch size, in March, or more in tubs, and given the same culture as the *Hyacinth*, to which it is really not related. Any sunny border will suit it. Planted 6 inches deep it will adorn the place for many years without needing more care than a share in the winter and spring

mulches, the waterings and manurial feedings bestowed upon its neighbours.

Day Lilies, *Hemerocallis*, are hardy herbaceous plants that give rich gold or bronze blooms. They may be grown in the garden, or are useful in pots. Keep almost dry during winter, in cold frames.

CHAPTER VIII

ANEMONES, FRITILLARIES, TURBAN RANUNCULUSES, TRITELIAS, MUSCARI, ETC.

‘ See ! yon anemones their leaves unfold,
With rubies flaming, and with living gold.’

THE TURKISH POET, MESIHI.

THE Japanese Anemone is so much esteemed that we may just note that it can be increased by planting almost any severed piece of its root ; but it ranks more with Herbaceous Plants than with Bulbous. Its tall pink, white, or deep rosy flowers look glorious, however, rising in thick ranks at the back of the bulb borders, or it might well be used for centre height in Bulb beds.

Anemone coronaria is the florist’s anemone that has been bred and bred till the range of colours has become wonderful, and the blossoms now attain dimensions that would have astounded old gardeners. There are French, Irish, Dutch, Double and Single, to be bought in mixture, or in separate colours for bedding, or by specially named varieties.

The usual method of culture is to plant the tubers

in October, in well enriched sunny ground, 2 or 3 inches deep, and 6 inches apart. This is excellent, as far as it goes, but I happen to have devoted special study to growing *Anemone coronaria*, and can say that, though it is a very easy flower to grow, some failures are almost bound to result unless care is taken that the soil never dries hard, and the blooms will not be what they *might* be unless more manure is supplied, from above ground, as the buds form and colour.

It is rare to find an *Anemone* bed without some gaps in it. Individual plants sicken and die off, and the cultivator says, 'Ah, those wireworms again!' But, probably, the tubers have come in contact with crude or too-fresh manure, or else have exhausted all the moisture their rootlets can obtain. Sometimes the plants yellow, go limp and decay, after all the leaves have grown and the buds are arising. That, I believe, is when they have been reduced to a starvation diet. Just as flowers and foliage in a vase must die soon—the blooms possibly because it is their rôle to create seed, then pass, but not so the leaves)—the *Anemone* plants succumb because water, from the skies or the can, and mere earth, does not nourish them enough. They are gross feeders. I like to make beds of equal parts of loam and old cow-manure, half parts each of sand and leaf-mould, and, even then, I mulch with more of the manure, and hop manure, at budding time, sprinkle fertiliser and give soot-water often as flowers open.

Anemone coronaria, when cultivated like that, has no gaps in the beds, and the blossoms thrown are superb in texture, thickness, duration, colour, and size.

Directly tubers have been planted, 2 inches deep in heavy or ordinary soil, 3 inches in sandy or gravelly places, mulch over with 3 more inches of leaf-mould. Don't pat it into a firm cake, but just throw it on as a light loose wrap.

Then plant the tubers in October by all means, but do not omit to plant others in any, or every, month of the year somewhere and somehow. I can guarantee the possibility of having the flower in every month—aye, in every week. Plant it in dells where it will not feel the winds that check it, windflower though men call it, put it on the warm slopes of banks, in the cosiest nooks of rockeries, in July and August, and it will bloom in October and November. Later batches should be budding freely in December and January. If there are hard frosts and snow, do not worry, but mulch the *Anemone* beds again, heavily, with coco-nut-fibre refuse and leaf-mould, till you have to grope to find the youngest foliage. I have gathered bud bouquets from under deep snow, and watched every bud unfurl to a perfect flower in bowls indoors. Plant in January and gather in May. Plant in March and have *Anemones* in summer. Plant in pots, too, window-boxes, urns, tubs, by the waterside, in fairly open glades of the

wood, and in the kitchen-garden lavishly—between the old gooseberry bushes if nowhere else—to gain sheaves for house decoration. Anemone tubers can be stored in air-tight tins, in cold cellars, till they are wanted ; by soaking them eighteen hours in water, tepid at first, then stood in a genial temperature, they can be persuaded to swell out at any season, and the next stage is sprouting. They are cheap ‘bulbs,’ too.

VARIETIES OF ANEMONE CORONARIA.

DOUBLE DUTCH.

SINGLE DUTCH.

ST. BRIGID. *Semi-double.*

GIANT FRENCH. *Single, or*
Double, or Mixed.

CHRYSANTHEMUM-FLOWERED.

DOUBLE-NAMED KINDS.

KING OF SCARLETS.

LORD NELSON. *Blue.*

ROSE DE NICE. *Pale pink.*

L'ÉCLAIR. *Vermilion.*

Anemone coronaria seed is like woolly thistle-down, so is mixed with moist sand before being sown, lest the winds scatter it afar. A prepared bed in the open garden should be exceedingly fine on the surface, and perfectly level : rich it ought to be, yet sandy too, and no manure but the oldest should be in it. Compost, applied through a fine sieve, must only just cover in the seed. Sheets of brown paper, damped, and weighted at the edges with stones, should cover the whole bed until growth appears. Seed can be kept, if desired, but quickest results are from seed used when ripe, in May or June. Where the baby Anemones appear there must they grow and mature, so waterings and weeding need to be carefully carried

out. There may be a few flowers in October, but the next spring a real show will rejoice the grower, though it will not be till months later that the finest blossoms will be discovered. 'Doubles' are not likely to appear double at first. The seed-raised Anemones will not demand lifting and division until the fourth or fifth year, but the bulb-planted Anemones are best raised always as soon as dying-down has occurred after blossoming, the tubers then being stored for awhile before being used again.

The Scarlet Windflower (*Anemone fulgens*) is one of the earliest blossoms. The variety *grandiflora* is darker red, as well as bigger, and *fulgens plena* is a double kind.

These, like all the other hardy Anemones, can live out, and may be planted in October or November.

The Wood Anemone is *Anemone nemerosa*, now obtainable in blue, as well as a double white. *Anemone Palmata*, yellow, and *Palmata alba*, white with yellow centre, are its kinsfolk. We have also the Star Anemones (*Anemone Hortensis stellata*), sometimes called Peacock Anemones, star-shaped single little flowers of entrancing charm, in shades of rose, salmon, red, purple, white, etc.

Anemone Appennina, sky-blue, and its white form, and *Anemone ranunculoides*, yellow, are splendid in woodlands, or on banks. *Anemone blanda*, blue or white, looks exceedingly lovely on a hot sheltered

border, where the Pasque Flower, the violet-blue or white Anemone Pulsatilla, should also be cultivated. The Snowdrop Anemone (*Anemone sylvestris*) is not effective, but a dainty gem for the rock garden.

Chequered Lilies, or Fritillaries, are peculiarly marked pendant flowers, many having a chessboard pattern in brown-purple on greenish-white or greenish-yellow petals, some being tinged with rose or heliotrope. They are hardy, indeed *Fritillaria meleagris* is a native of our land. Plant in rich borders, in partial shade, from September to November, 2 or 3 inches deep. They are about 8 inches high.

This family possesses a giant, for the Crown Imperial is *Fritillaria imperialis*. No spring border is complete without this majestic red, apricot-orange, or yellow flower. Place the bulbs 4 inches deep, slanting them if the soil is naturally wet, or the locality a damp foggy one. Unless this precaution is observed, wet may lie in the hollow of the bulb and cause it to rot. For a showy bed or border, the plants may be only 8 inches apart, then the alternate ones given fresh quarters later on; but 18 inches apart is not really an excessive distance for such handsome dignified subjects. They look noble when flanking the arches of the pergola, in tubs by the house steps, in pots or tubs in glass porches.

One bulb in a six-inch pot of extra depth will bloom, or bulbs of any quantity will thrive in split barrels, the roof-garden's giant border boxes or artificially built-

up beds, if set 6 inches each from each. Ordinary soil or compost will suffice, yet the Crown Imperial loves the presence of some peat.

The potted bulbs should be just covered by a couple of inches of coco-nut-fibre refuse, to keep them snug; may inhabit frames, or the open garden so long as sheltered from frosts severe enough to destroy the roots within the pottery. When flowering is over, water should be gradually withheld, and then there must be a dry condition until it is time to repot for another season, or for merely starting the bulbs into fresh growth by top-dressing and beginning to water. But these second-year specimens ought not to be left out; the genial atmosphere of a sunny frame or greenhouse is what they need to waken them to renewed life. Of course, pots sunk to the rims out of doors, either in the ground or cinder beds, are greatly preferable to pots stood with their sides exposed; but ornamental giant pots, garden vases of stone, etc., cannot be so used, and Crown Imperials furnish these excellently. Front garden beds of blue *Violas*, such as the good old-fashioned Blue Gown, round clumps of the Cottager's Orange Lily, with an outside edge of blue *Crocuses*—a wide belt, not a narrow line—and a centre mass of Crown Imperials, will provide beauty in both spring and summer. An improvement would be a few tawny Darwin Tulips, to give colour, with the *Violas* before the Lily flowers, and, of course, 'brown-crimson' and bronze varieties of German *Iris*, blue

Hyacinths, Spanish Irises, and golden-orange Polyanthus Narcissi could be added.

Another front garden flower is surely the tuberous Ranunculus? Experience persuades me that it is wise to regard the Turban kind as the only hardy one, though it is likely that French, Scotch, and Dutch would succeed under similar cultivation in all specially sheltered nooks of warm gardens. In the worst gardens, Turban kinds should be grown only as recommended for the more delicate ones, in Chapter XVII. Named 'Turbans' are obtainable, such as the citron *Séraphique* and green-and-scarlet *Viridiflora*, but a mixture of Giant Double will satisfy all persons but the most captious.

In habit of growth, consequently in effect when filling a bed, the tuberous Ranunculus resembles the Carnation, the flowers being thrown on long stems well above tufted foliage, the latter being vivid deep green, however, instead of grey.

Plant tubers, then, in rich yet sandy soil, in sunshine, claw-points downwards, in October, risking others, perhaps, in November, to obtain a second bloom-harvest. Place them 2 inches deep, 3 inches or more apart. Mulch over with coco-nut-fibre refuse in order to keep the soil from being dried up and hardened. Once foliage has begun watering should be started, unless the weather is wet or frosty, for this plant must not lack moisture during the growing season. There should be an exquisite show

in June, and the flowers last for weeks in water indoors. Mulch in April with well-rotted cow-manure, and give fertilizers and liquid manures when buds form if extra fine blossoms are desired. Lift the tubers, like bulbs of Tulips, after foliage has died, and store.

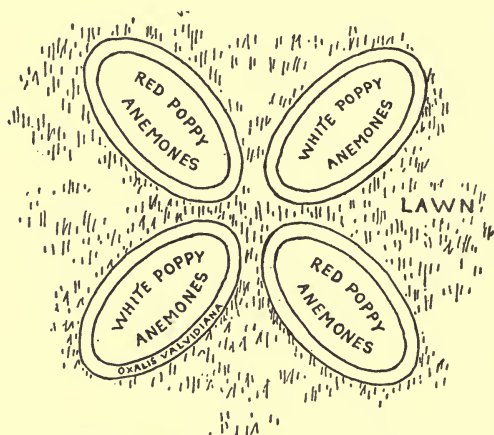
Tritelia uniflora is a tiny gem of early spring. The flowers are star-shaped, ivory-white, in one case streaked with blue, in another so flooded with the same hue that quite a colour-effect is produced, and a perfume like that of the primrose is yielded by them. Plant bulbs 3 inches deep, 3 inches apart, in sunshine, from September to December; cover over the beds or edgings with 3 inches more of light leaf-mould, which remove in March. Leave bulbs undisturbed for four years, when divide and re-plant.

We come now to the *Muscari* family, of which a partial list is given on the next page. The little bulbs can be planted 2 inches deep and 2 inches apart, the larger ones 4 inches deep and 4 to 6 apart, in beds, borders or rockeries, in sunshine, from September to December. A mulch of old manure and leaf-mould should be laid over in November. The small sorts can be potted like Crocuses, the large ones like Oriental Hyacinths. Bulbs can be left in the ground for years, and dried off gradually in pots, then re-started in September in cold frames.

BEAUTIFUL MUSCARI.

- | | | |
|---------------------|---|--|
| MUSCARI BOTRYOIDES. | <i>The Grape Hyacinth. Six inches. In spring. Royal blue, azure-blue, or white.</i> | <i>Hyacinth. Fine plumes of mauve blossom. Taller.</i> |
| MUSCARI COMOSUM. | <i>Tassel Hyacinth. Mauve. Taller. Late spring.</i> | MUSCARI RACEMOSUM. <i>Starch Hyacinth. A very deep blue edition of the Grape Hyacinth.</i> |
| MUSCARI PLUMOSUM. | <i>Feather</i> | MUSCARI NEGLECTUM. <i>A fine very dark blue kind, that is earlier.</i> |

We may read in Mrs. Loudon's ancient work, *The Lady's Companion to the Flower Garden*: 'Muscari.—Asphodeleæ.—The Grape Hyacinth. Bulbous-rooted



UNCOMMON BULB BEDS IN LAWN.

plants, that only require planting in any common garden-soil, where they may remain several years, flowering every year in succession, without any care being necessary in taking them up, etc. The Starch

Hyacinth (*M. Racemosum*) takes its name from its flowers smelling like starch.'

As a matter of fact most of the Muscari can be relied on to flower fairly well even in shade, and under deciduous trees.

The rich blue of the Grape Hyacinth makes it effective when viewed in large congregation. A charming feature for a lawn, or gravelled square, would be closely grouped small beds filled with different varieties and species of the Muscari.

CHAPTER IX

KNIPHOFIAS, EREMURI, MONTBRETIAS, SCHIZOSTYLIS, ETC.

‘ Flower-spires that point to mounts of God,
Gold spires and silver, bowing as they grow.’

ANON.

THE Kniphofia, or Tritoma, Torch Lily, or Red-hot Poker, makes a glorious comrade for Lilies, Spanish and English Irises, then right away on for Gladioli and Montbretias, till the blood-red Schizostylis proclaims the passing of autumn.

Indeed a frost-defying Dahlia and the Red-hot Pokers are often the last flowers of all in gardens. There are far more varieties of Kniphofias than most gardeners are aware, and one with variegated foliage.

KNIPHOFIAS, OR ‘ POKERS.’

KNIPHOFIA ALOIDES. <i>Orange-vermilion and yellow.</i>	5 feet.	KNIPHOFIA LONGICOLLIS. <i>Citron, orange shaded.</i>	3 feet.
KNIPHOFIA CORALLINA. <i>Coral-red.</i>	3 feet tall only.	KNIPHOFIA MACOWANII. <i>Coral.</i>	2 feet.
KNIPHOFIA FOLIOSA. <i>Scarlet, fading to yellow.</i>	5 feet.	KNIPHOFIA CHLORIS. <i>Old gold.</i>	5 feet.

HARDY BULBS

101

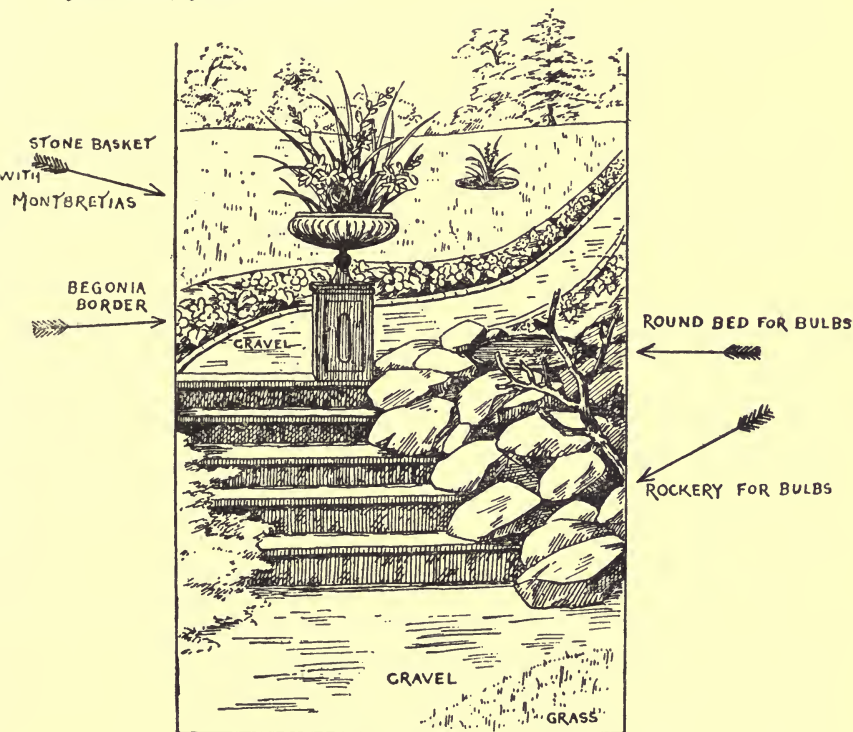
KNIPHOFIA EXCELSA. *Orange-gold-carmine blend.* 9 feet.

KNIPHOFIA PAUCIFLORA. *Yellow.* 2½ feet.

KNIPHOFIA TUCKER. *Red and yellow.* 5 feet.

KNIPHOFIA ALOIDES MAXIMA. *Scarlet.* 6 feet.

KNIPHOFIA NORTHU. *Rosy red and lemon.* 5 feet.



A GARDEN CORNER.

Plant in sandy, yet rich, deep beds or borders, in October, November, or March. Mulch every March. Propagate by division of roots.

The Eremuri, Torch Lilies, or Spire Flowers, may be similarly cultivated, are even taller, often attaining a height of 10 or 11 feet, and are of most delicate shades, coming in long-stemmed spikes of clustered florets, from June to October. Another name for the plant is Himalayan Asphodel.

BEAUTIFUL EREMURI.

EREMURUS BUNGEI. <i>Citron yellow. 8 feet.</i>	EREMURUS HIMALAICUS. <i>White. 4 feet.</i>
EREMURUS ROBUSTUS. <i>Peach. 11 feet.</i>	EREMURUS ELWESIANUS. <i>Rosy peach. 7 feet.</i>

Kniphofias and Eremuri are among the grandest plants for making glades with ; if put close to the edges of borders by a narrow path, the vista-view down the walk, when their steeple-like floescence is at its best, will produce one of those remarkable effects for which ambitious gardeners, amateur or professional, are always sighing.

Both plants need plenty of water while in growth.

I have long relied on Montbretias (or Tritonias) for the giving of brilliant orange and vermilion in shady borders, among hardy ferns, where rains sink in and render the soil a 'squash' for weeks together ; yet I have a strong regard for them also as occupants of but little compost squeezed in 'pockets' formed by gaps among the bricks of a crumbling old wall. I grew them once in a shallow trough, or ditch, cut in

the gravel against a greenhouse wall, and reaped lavish basketsful for home decoration. In both cases the compost put in for them consisted of loam and dry decayed cow-manure, with some brick-rubble. Yet there are gardens in which people find it necessary to give Montbretias the happiest places, and protect them by mulches of coco-nut-fibre during winter.

Occasionally the flowers come meanly, the petals being papery and nearly transparent, and fading almost as soon as unfurled. This may be for lack of nourishment, or root-space, but it is generally noticed where sun-heat is fiercest.

In their native haunts Montbretias spring up among grasses, and in fields full of other flowers, so their bulbs are never subjected to the sun-baking in the soil that injures innumerable other species also in our semi-filled garden beds and borders.

Often we can best understand the desires of plants by imagining them, or visiting them, where they are known as wildings. So now I like to grow Montbretias in grass that may run to seed, on margins of woodlands, meadows, and shrubberies, or sow among them annually such beautiful grasses as the *Brizas* (Quaking), *Coix* *Lachryma* (Job's Tears) and *Eragrostis elegans*. To press them into the service of wall-gardens and arid rockeries is one thing, legitimate enough in its way ; to cultivate them to perfection is another thing, and highly to be commended.

Plant 3 inches deep, 4 or more inches apart, in bold belts or congregations, from October to March. Feed by mulches, or liquid, or powder-chemical manures.

Pot bulbs or corms 3 inches deep, 2 inches apart, cover with cinder-ash or other material, till growth shows. Keep dry after flowers and foliage are dead, and plant in the borders or rockeries next November ; or, if preferable, turn out the clumps as they leave off being attractive, and replant them immediately where they can remain.

Pots of Montbretias may be put into greenhouse temperature of not more than 60°, when flower spikes are visible. By potting at intervals of a week, from early October to March, fine room or greenhouse ornaments are secured throughout the dull months. They can, of course, be cultivated entirely in pots, boxes, and ornamental, turf-lined, compost-filled baskets, inside windows, and make satisfactory window-box fillings, either alone or behind such flowers as white Petunias or mauve Violas.

SPECIALLY EXCELLENT MONTBRETIAS.

MONTBRETIA CROCOSMIÆFLORA FLORE PLENO. <i>Double type.</i>	MONTBRETIA CROCOS ÉTOILE DE FEU. <i>Vermilion.</i>
MONTBRETIA CROCOS AURANT- TIACA. <i>Plain yellow.</i>	MONTBRETIA CROCOS FEU D'AR- TIFICE. <i>Yellow, with red spots.</i>
MONTBRETIA CROCOS DRAP D'OR. <i>Orange-yellow.</i>	MONTBRETIA CROCOS GERMANIA. <i>Orange-scarlet. Very large.</i>

MONTBRETIA CROCOS G. DAVIDSON. *Orange-yellow giant, often 4 feet tall.*

MONTBRETIA CROCOS MESSIDOR. *Yellowish white.*

MONTBRETIA CROCOS METEOR. *Yellow inside, deep red outside.*

MONTBRETIA CROCOS PLUIE D'OR. *Lemon-yellow.*

MONTBRETIA CROCOS PYRAMIDALIS. *Apricot-salmon.*

MONTBRETIA CROCOS SPECIOSA.

Copper, with yellow disk in centre.

MONTBRETIA CROCOS TALISMAN. *Orange, with purple spot.*

MONTBRETIA CROCOS PROMETHEUS. *Orange, with maroon ring in centre.*

MONTBRETIA CROCOS KOH-I-NOOR. *Orange-apricot.*

MONTBRETIA POTSII. *Dwarf type. Orange and scarlet.*

MONTBRETIA POTSII ROSEA. *Salmon-rose.*

Some of the above are hybrids, between Montbretias and Crocosmia aurea, a somewhat similar plant, with red-orange flowers, which can be grown by the same method, except for placing bulbs rather deeper and further apart.

All increase rapidly, and require dividing every third year at least.

I have alluded to the Caffre Flag, Schizostylis coccinea, as often one of the latest flowers in our borders. It is scarlet-crimson, continues gay throughout October and November where it starts in September, or throughout November and December where it begins in October. To obtain blossoms at both times I buy bulbs (or rhizomes) fresh annually (though I leave plenty of others out year after year), and plant and pot them for succession. The height varies from 1 foot to 3 feet.

Three bulbs in a six-inch pot do well. Place them so

in November or March, using ordinary compost, then treat like Montbretias.

Plant bulbs 2 or 3 inches deep out of doors, or more in very light soils. Divide, and increase by removing portions of roots and rhizomes, in March, when they have become overcrowded.

The Schizostylis will die out of beds during droughty summers unless well and constantly watered.

Of the immense value of this late flower for cutting there can be no question, so we may be thankful that, like the graceful Montbretias, its bulbs are quite cheap.



AN AUTUMN BULB BORDER.

There was formerly confusion between Montbretias, Crocosmias, Ixias, and Tritonias; the last are now accorded a distinct place in florists' catalogues, as a rule, and are characterized by the overhanging, or drooping, of their quite narrow leaves. The flowers are orange and gold, in the main, but there are reds and purples. They are not quite as robust, so should be mulched over with dry material after planting is done, and yet possess more stamina in a sense, so require slightly more space both in the ground or in pots. Also, the bulbs must be lifted annually, stored, and replanted, except when occupying nooks in hot rockeries.

CHAPTER X

ALLIUMS, ORNITHAGALUMS, MEADOW SAFF-
RONS, SPIDERWORTS, DOG'S TOOTH VIOLETS,
HARDY CYCLAMEN, HARDY ORCHIS, SOLO-
MON'S SEAL, DICENTRAS, CHRISTMAS ROSES,
ETC.

‘Unvaunting blossoms, pale but sweet, have learned to show their
faces.’

NORMAN GALE.

ALLIUM NEAPOLITANUM is the white flower
that is seen very early in the year, in street
seller's baskets. Few plants bear forcing better than
does this hardy species, but there is now an improved
Allium, known as *A. Hermetti grandiflorum*, which is
not only finer but has none of the garlic smell that
unpleasantly distinguishes the Neapolitan variety.
It is a curious fact that, though a whole woodland, or
side of a garden, can be rendered malodorous by a
few groups of this relative of the leek and onion, after
the flowers have been a little while in water, in vases,
the smell departs from them.

To force either of these Alliums, pot bulbs in October, or earlier, 2 inches deep, and 1 inch apart, in ordinary compost. Keep the pots in a cold frame, or unheated greenhouse, just covered by moss, or other material, till foliage is well up and blooms are coming, then give them a temperature of 55°.

The Golden Moly (*Allium aureum*), a foot tall and very effective, may be grown in the same fashion, three bulbs in each six-inch pot.

Alliums to cultivate in pots, or in sun, shadow, or semi-shade out of doors, in addition to the above, offer various shades.

SOME HARDY ALLIUMS.

ALLIUM AZUREUM. Deep blue. 2 feet tall. Spring.	ALLIUM PULCHELLUM. Bright deep blue. 1½ feet. Summer.
ALLIUM ACUMINATUM. Bright rose. 1 foot. Spring and summer.	ALLIUM GLAUCUM. Straw colour. 2 feet. Flowers all the summer. Only fit for the rockery.
ALLIUM DESCENDENS. Purple- crimson. 1 foot. Summer bloomer.	

Owing to the many months over which Alliums blossom, in succession of varieties, an Allium Rockery Mound, or dell, would be an effective, as well as an instructive, ornament for a garden. Bulbs should line out; those removed from pots might be made use of in shrubbery clearings.

The Ornithagalum family constitutes one of the many mysteries in gardening, for why we all habitually

neglect it can only be surmised ! I am inclined to blame the length, and ugliness, of the Latin name, and the inapplicableness of the English, *Star of Bethlehem*, to more than one species.

ORNITHAGALUMS.

- | | |
|--|--|
| ORNITHAGALUM UMBELLATUM. | ORNITHAGALUM NUTANS. <i>White, striped with green.</i> |
| <i>The Star of Bethlehem. White, with glistening petals visible on almost dark nights.</i> | ORNITHAGALUM PYRAMIDALE. |
| ORNITHAGALUM ARABICUM. <i>Big White Star Flowers, with black centres.</i> | <i>Tall spikes of thickly clustered white blossoms.</i> |
| | ORNITHAGALUM LACTEUM. <i>Tall pointed spikes of cream flowers.</i> |

It is a safe rule to plant the small bulbed kinds 3 inches deep, and 3 apart, the large bulbed sorts, 4 inches deep, and 6 apart, in sunny borders, beds, rockeries, or turf ; or pot small bulbs five in a six-inch pot, large bulbs one in each six-inch pot, using a compost of loam, leaf-mould, peat, and sand. Keep pots in cool places, with only the scattering of moss or other material over the surfaces that will prevent too rapid evaporation of moisture from that compost ; but, when growth is visible, begin to water, and gradually increase the supply, also gradually bringing the plants into full light, sunshine, and a temperature not above 65°.

The Pyramidal Ornithagalum is a charming window plant : the black-eyed one, *O. Arabicum*, looks lovely in hanging wire or rustic wood baskets along a

veranda. The garden bulbs need no lifting for four years; pot-bulbs should be dried off, stored, and replanted annually.

Just when we are beginning to feel rather 'autumny' about our gardens, conscious of falling ambitions and fading chances, the Meadow Saffron comes to the relief of our spirits. Why?—And how?

Well, those ineffective banks, and shady rockery slopes, those bared window-boxes in which annuals succumbed too soon, the glades between the summer bloomed-out rose-trees, the burnt or trampled lawn under the weeping-willows' branches, can be made to gleam with peach-mauve blossoms in a few weeks. And not peach-mauve only, with crimson-rose, purple, and white also.

Simply order all the kinds—unless the purse forbids. The Giant White variety's bulbs are about three-and-sixpence each, I believe, while others are six shillings a dozen at the worst—the commonest are much less. All are shaped like immense crocuses, but Crocuses they are not, in spite of being constantly called so.

THE TRUE MEADOW SAFFRONS.

COLCHICUM AUTUMNALE. <i>Peach-mauve.</i>	COLCHICUM AGRIPPINUM, or TESSELLATUM. <i>Purple.</i>
COLCHICUM AUTUMNALE ALBA. <i>White.</i>	COLCHICUM SPECIOSUM ALBUM. <i>Giant white.</i>
COLCHICUM AUTUMNALE PLENUM <i>Double peach-mauve.</i>	COLCHICUM BORNHULLERI. <i>Pale peach and white.</i>
	COLCHICUM GIGANTEUM. <i>Mauve.</i>

Say that the ordered bulbs arrive in early July, as they should—plant some at once, others at intervals of a few days, until the middle of September. If you like, try retarding some bulbs, by putting them away in a tin box, tightly closed, in a cold dry cellar, not to be planted till the second or third weeks in November, then in frames, to make a bid for Christmas flowers. Put bulbs anywhere moist, fairly rich, and rather shady, placing them 3 inches deep, and 3 inches apart. They ought to bloom in six to eight weeks, but any that take longer will be worth waiting for. How the bees love them! What a revelation they are to countless flower-lovers, if planted in roadside gardens!

Leaves do not come until after the flowers, then make a pretty carpet. Meadow Saffrons are absolutely hardy, ready to grow from seeds sown out of doors in September, but seedlings do not blossom for four years. Colchicums are also good as pot- or window-box plants.

Let me include Hardy Spiderworts, or *Tradescantias* in this book, although they are herbaceous perennials. There is 'such a bulby look about them,' as a young friend of mine put it, and they can be increased rapidly by divisions of the roots. Plant them any time from October to April, in semi-shade or fullest sun, leave them alone, except to give water in droughty seasons, and there will soon be masses of vivid green cool-looking grassy foliage, $1\frac{1}{2}$ to 2 feet high, and stems

set with quaint, vivid sky-blue, royal-blue, violet, rosy purple, or shining white flowers. They are the loveliest companions for Montbretias, helping them make a tropically gay sort of field. Hardy Tradescantias are well worth pot cultivation. I mean to try to force them gently for the greenhouse and for dinner-table centre-pieces.

We come now to some early but modest little pendant flowers, the Dog's Tooth Violets, or Erythroniums, which want moisture and semi-shade. Once we had only the purple and the white Erythroniums Dens-Canis, but American floriculturists introduced bigger sorts, and other hues. For example, *E. Hartwegii* is bright gold, *Revolutum* ivory and orange, *Grandiflorum* Matador, rose. They begin in March, and keep on blossoming till the end of May, and then their leaves are decorative.

Plant bulbs 3 inches deep and 2 inches apart, from August onwards. Pot bulbs 1 inch deep and 1 inch apart. Keep in cold frame or cool windows until February, giving scarcely any water before then : remove pots to moderately warmed greenhouse, or warm window (shading from sunshine) when buds are beginning. Dainty, poetic, little subjects, tenderly loved by some persons.

Those words apply equally to the Hardy Cyclamen, which may be grown in the same way, though there is this difference, that it is best, every year after the leaves have died off, to mulch round the plants with

decayed cow-manure and leaf-mould, after scratching away the old bed until the corms stand partly revealed. And pot-plants should be kept always in cold frames or unheated greenhouses.

The marbled leaves have a charm: the blossoms are like greenhouse Cyclamen, only smaller and frailer.

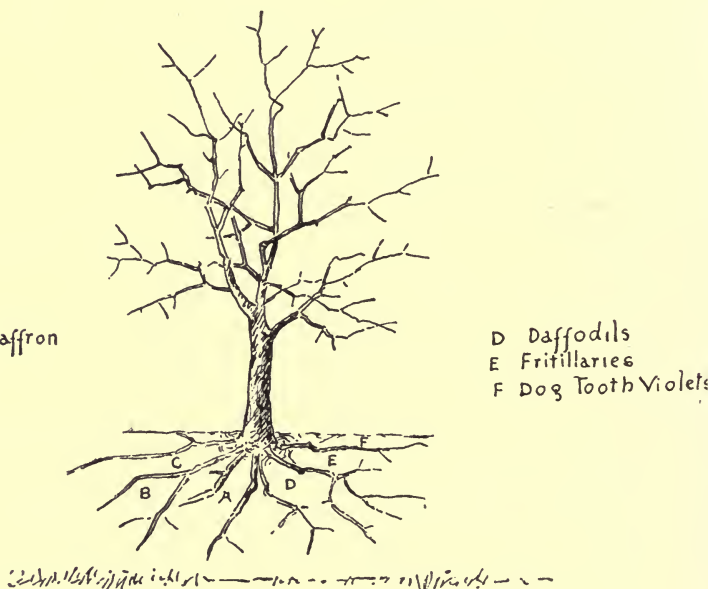
HARDY CYCLAMEN.

CYCLAMEN COUM.	<i>Deep crimson, with all-dark leaves.</i>	CYCLAMEN EUROPEUM.	<i>Magenta-purple.</i>
CYCLAMEN ATKINSII	ROSEUM. <i>Rose.</i>	CYCLAMEN NEAPOLITANUM	ALBUM. <i>White. Finely mottled foliage.</i>
CYCLAMEN ATKINSII	RUBRUM. <i>Red.</i>	CYCLAMEN LIBANOTICUM.	<i>Rosy.</i>
CYCLAMEN ATKINSII	ALBUM. <i>White.</i>		

They are charming, as are most small bulbous plants, among the big roots of fine trees.

Hardy Cyclamen flower extremely early in some places; indeed an old author declares they 'salute the opening year,' then proceeds to explain that 'the name of the genus, taken from the Greek, and signifying "circular," is expressive either of the leaves, or, more probably, of the numerous serpentine coils into which the fruit-stalks entwine themselves. The bulbs of this and the other species of Cyclamen are as large as a guinea-fowl's egg. They contain a great degree of acidity. In the north of Italy swine feed upon them, hence the name by which this plant is often called of

sow-bread. It is not till the beautiful flowers of the Cyclamen wither away that the stalks assume the coiled form before alluded to ; when, screwing themselves round, they enclose the rudiments of the fruit in the



PLANTING BULBS BETWEEN TREE ROOTS.

centre, and lying down among the foliage, remain in that position till it comes to maturity.'

The common Purple Orchid of our woods, its paler variety, and all others that can be found growing wild in the kingdom, would succeed in places where Cyclamen have thrived, and are easily dug up and

transplanted when going out of bloom. Rockeries are excellent for both classes of plant.

It is customary for people to complain of having shady spots in their gardens, dull alleys between buildings, maybe, or borders against cold walls, where 'nothing but ferns will grow.' It would not be a serious risk to bet heavily on the willingness of the Solomon's Seal to assist ferns to hide ugliness. Whether one calls it by this old name, or Lady's Seal, David's Harp, Lily of the Mountain, or Ladder to Heaven, *Polygonatum multiflorum* is a far fairer flower, and plant too, than is generally admitted. One nearly unique merit it has, too—the giant Lily of the Valley suggesting furred pea-green spikes of leaves with which it breaks through the beds and borders very early each year. I would say to all owners of shady gardens, do not be content till you have plenty of types of this graceful ornament. *Polygonatum multiflorum* has a dwarf variety, and also a variegated one. *Polygonatum latifolium* is a giant, often 4 feet high, and the florets are in clusters, not only set demurely two by two. There is a rose-coloured *Polygonatum* now, and a pale lilac one, I hear. Plant the fleshy roots 3 inches deep, and mulch with manure each March.

All owners of frames, cold or cool greenhouses, or lovers of room plants, should grow Solomon's Seals in pots, and if there happens to be a greenhouse of from 50° to 65°, in January or February, pot-specimens can be forced into bloom. There is no need to wait

till flower spikes show, for indeed there are none, the blossom comes on the leaf stems. The young growth does not mind being hastened.

Solomon's Seals, Bleeding Heart Flowers (*Dicentras*), and *Spiræas* will furnish a small sunny but unheated conservatory very attractively in spring, or a moderately warmed one yet earlier, before wintry weather has gone.

They are all easily grown, in equal parts of loam, leaf-mould, and sand, the roots squeezed rather into six- or seven-inch pots, and just kept from going dry until growth appears, then watered moderately as a prelude to being watered *immoderately* when in full vigour. Forced plants should be put into the garden ground for a year's blooming, then will do for pot culture again for the following blossom-tide.

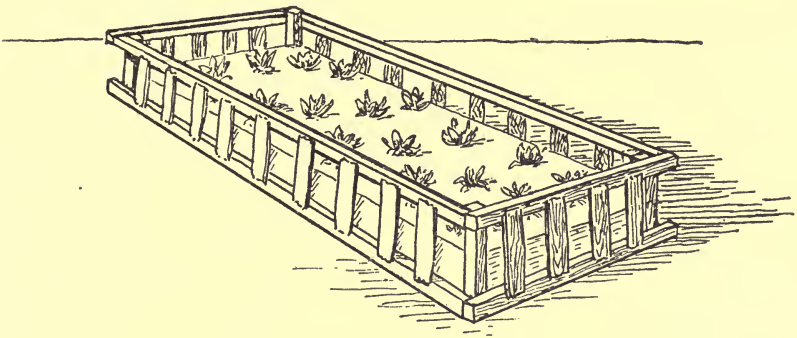
The Christmas Rose would be far more grown, no doubt, if there were not delusions abroad as to its being difficult to succeed with in pots, and certain to be weather-spoilt out of doors.

With regard to the first objection, so long as *Helleborus Niger*, *Helleborus Maximus*, and perhaps *Helleborus Rubra*, the red novelty, are used, put singly into six-inch pots in October, kept in cold frames, or a greenhouse no hotter than 50°, and given a compost of two parts fresh turf loam, one part well-rotted horse-manure, half parts of brick-rubble and leaf-mould, there should not be any failures to record.

When buds appear the Christmas Roses can go into

five, or even ten, degrees greater heat. They must not suffer for lack of water at any time, and should not experience sunshine.

With regard to the second objection, garden Hellebore flowers can surely have *clôches*, skeleton frames covered at times by oiled linen, or hand-lights, popped over them during spells of wet—snow, hail, or rain? Mud splashed up on to waxen white petals is bound to spoil them. But Stonecrops, or Mossy Saxifrages,



SKELETON FRAME FOR COVERING BY OILED LINEN.

variegated Arabis, or London Pride, can be used to carpet among groups of Christmas Roses in the semi-shady border, which will prevent their coming in contact with Mother Earth.

Lenten Roses are Hellebores that flower later, and offer many shades of rose and crimson.

Numbers of the smaller hardy bulbous plants can

be made use of in woodlands, or beneath ornamental specimen trees on lawns. They should be placed in the spaces between the giant roots, as then soil can be introduced into hollows made for them, almost up to the trunks.

PART II
GLASS-HOUSE
BULBS

CHAPTER XI

HIPPEASTRUMS, NERINES, CLIVIAS, GESNERAS, ACHIMENES, CYCLAMEN, ETC.

‘Some flowers there are that rear their heads on high,
The gorgeous products of a burning sky.’

HARTLEY COLERIDGE.

THERE are bulbous plants suited to all kinds of glass-houses—the Alpine House, that is quite unheated, kept for the culture mainly of plants that need shelter, without heat, yet excellent for many plants also that can do without shelter but bloom earlier with some—the ordinary greenhouse or conservatory, the temperature of which varies between 45° and 65°—and the hothouse, or stove, where heat and a humid atmosphere are intended to persuade exotics that they are at home.

We have already noted, in the preceding chapters, how willing various *Hardy* bulbous plants are to grow and bloom out of doors, or under glass without heat, and even to let themselves be forced, by heat, into rapid development and maturing of blossoms. But there are many beautiful subjects that need to be cul-

tivated in glasshouses ; others which, though able to live in sheltered nooks of very warm, safe gardens, are more to be relied on when better protected.

Hippeastrums are greenhouse varieties of *Amaryllis* in the majority of bulb merchants' lists. The flowers are of splendid rich colours, also blends with white, as a glance at the list given further on will show. Bulbs should be potted in February, one in each six-inch pot, in a compost of two parts good loam, with half parts each of peat, very ancient dry cow-manure, leaf-mould, and coarse sand. These bulbs are not buried, but inserted about two-thirds of their depth. In order to maintain moisture in the compost for some time, without having to risk giving water, it is wise to sink the pots up to their rims in cinder-ashes, or coco-nut-fibre refuse, in deep boxes, or plunge them in a border-bed, in the greenhouse ; watering the fibre *between* the pots will keep the compost *in* the pots sufficiently damp until growth appears. Then watering must begin, but with these, as with all greenhouse bulbs, extreme care must be taken not to over-water—above all, not to *re*-water until the soil is really on the verge of becoming quite dry.

Directly flower spikes are discernible liquid manures, in weak form, can be given once a week. There may be some made with cow-manure, and some with horse-manure ; if so, give these alternately, then soft water, then begin again ; or if there is some made with mixed farm-yard manure, that can be alternated with soot-

water. Another good plan is to use a slight scattering of bone-meal, or crushed bones, in the compost when potting the bulbs.

The temperature for flowering *Hippeastrums* in may be from 65° to 75° , but some growers cultivate them altogether in cold frames, with protective coverings in winter. In the former case they bloom in February and March as a rule ; in the latter case they must not be expected to flower until April and May. In September, after the blossoming is done, watering must be gradually stopped, and this accommodating plant needs a temperature of only 50° to 55° from then until the following February. The plants will not want repotting until the third or fourth year, but every February they should be top-dressed with fresh compost. When repotting is at last done, any offsets should be removed, and treated just like bulbs.

A CHOICE AMONG FINE HIPPEASTRUMS.

HIPPEASTRUM METEORITE.	HIPPEASTRUM J. C. VAUGHAN.
<i>Scarlet.</i>	<i>White, veined with carmine.</i>
HIPPEASTRUM ZISKA. <i>Orange-vermilion, with black centre.</i>	HIPPEASTRUM NULMA. <i>Carmine, edged and flaked with white.</i>
HIPPEASTRUM LADY BROOKE. <i>Crimson, with black throat.</i>	HIPPEASTRUM COUNTESS OF ZETLAND. <i>Cream, veined with scarlet.</i>
HIPPEASTRUM ERNEST KELWAY. <i>Scarlet, netted with carmine.</i>	

The culture of *Nerines* differs in a few particulars. It is usual to put one bulb, half its depth, in a four-and-

a-half-inch pot, or three in a six or seven-inch ; potting may begin in August and be continued until November ; the pots should be in cold frames or greenhouses at first, and though they may be exposed to more warmth when plants are well growing, the latter need plenty of air, therefore moist heat of a slightly ventilated greenhouse will not suit them. From the time when flowers are over until the time (September) for re-starting bulbs, the pots had better occupy a shelf high in the greenhouse, close to a ventilator. Careful growers give weak liquid manure to plants that are out of bloom but have not yellowed as to foliage, but leave off all watering when the leaves die ; and it is by attention to such small details that the real triumphs in floriculture are gained. Nerines are of consummate value ; small specimens bear six to eight blossoms in a truss, while fine ones may carry as many as twenty-three upon one stem. They continue ornamental for months, instead of passing rapidly from beauty to bareness, as do many of our best-prized greenhouse occupants, and their colours include rose, coral, cerise, blush, and white, as well as scarlets and crimsons. Though the price of a single bulb often runs into several pounds, others, of older varieties, are but two to three shillings, and less by the dozen.

TWELVE MAGNIFICENT NERINES.

NERINE FLEXUOSA. <i>Soft pink.</i>	NERINE VIVID. <i>Scarlet.</i>
<i>Curved petals.</i>	NERINE PETER BARR. <i>Rose,</i>
NERINE FLEXUOSA ALBA. <i>White.</i>	<i>with golden sheen.</i>

NERINE FIREBRAND. <i>Crimson-scarlet.</i>	NERINE NYMPHE. <i>White, striped pale rose, with silver sheen, and waved petals.</i>
NERINE BODYGUARD. <i>Crimson-purple.</i>	NERINE LEONORA. <i>Salmon.</i>
NERINE CHAMELEON. <i>Mauve-pink-silver-and-gold.</i>	NERINE MRS. ARTHUR ELWES. <i>Rich satiny crimson.</i>
NERINE QUEEN ALEXANDER. <i>Cherry.</i>	NERINE IZARD. <i>Bright red, flushed with mauve.</i>

Imantophyllum miniatum, often known as the *Clivia*, is commonly cultivated entirely in rooms, but year after year may pass and no blooms relieve the monotony of leaves that are like broad-pointed deepest green reeds. To have pleasure from the 'Natal Lily,' as we may call it, pot the thickened roots in February, in a compost of two parts loam to one each of really old manure and coarse sand, put the pots on a sunny greenhouse shelf, water slightly when signs of drying are observed, and syringe as the days become hot. After the flowers have formed a few doses of weak liquid manures may be given, and the plants can be used to decorate conservatories or rooms. Treat after flowering like *Nerines*. The winter temperature may be as high as 65°, though 55° will suffice, or even a drop to 50° will not kill the plants; the summer or flowering temperature *may* rise to 75°, though 60° will suffice then. It is when Natal Lilies are treated wholly on the hardy side of culture that they are shy of yielding their beautiful grouped heads of red-orange bloom.

We pass now from the consideration of stately members of the order *Amaryllidaceæ* to some of the tuber-

ous perennials from Mexico, Jamaica, etc., that, while able to do with a temperature of 55° from September to March, require one of 65° to 80° from March to September. They are of the botanical order Gesneriaceæ, and the first is called *Gesnera zebrina discolor*. Not only are the flowers orange-scarlet, but the leaves are claret colour, marbled with other hues. Then there are quantities of Hybrid Gesneras, with blossoms of yellows, pinks, mauve, purple, or white.

Stay!—the merits of this plant are not yet explained. It is easy never to be without blossoming specimens, given the correct temperature. Bulbs or tubers are not costly, may be potted 1 inch deep, singly, in five-inch pots, or 2 inches apart in larger ones, in March for summer bloom, in May for autumn, in June for winter, in September for spring. When not to be potted at once tubers should be wrapped in several thicknesses of paper and put into a tin box. Those used in September and March should have a few hours' soaking in tepid water first. Use a compost of equal parts of peat, loam, leaf-mould, and coarse silver sand, with quarter parts of old cow-manure, hop-manure, and crushed mortar. The pots must stand uncovered in the greenhouse, not in full sunshine, and the soil must not be quite dry. When growth appears watering must be moderately done, a good deal being required by blossoming specimens; after flowers are over watering is lessened, and stopped as soon as the foliage dies down. After this, the pots should be laid

on their sides on a dry shelf, in a temperature not above 55°, until the time of year at which their bulbs were originally started. Then the bulbs should be carefully taken out, soaked for half a day or so and repotted.

The height of plants is from 10 inches to 2 feet. *Achimenes*, which belong to the same order, and come from the same countries, are from 6 to 24 inches tall, of all colours nearly, for the blues are especially effective among purples, violets, yellows, reds, pinks, and crimsons. Give *Achimenes* a compost of equal parts of peat and loam, half-parts of leaf-mould, decayed sheep-manure, and fine silver sand. Put three tubers, 2 inches deep, in each five-inch pot. Otherwise treat like *Gesneras*. They are very attractive sunk in hanging baskets. To hasten their culture the pots may be plunged into a hot-bed, to start bulbs into growth.

Then there are *Tydæas*, of rose, crimson, yellow, purple and blends, with charming green or ruddy crimson leaves. The rhizomes may be placed 1 inch deep, three in a six-inch pot, of the same compost as for *Gesneras*, at the same seasons, and given similar treatment, except that a temperature five degrees or so higher is needed, and shade must be arranged. Owing to the last essential *Tydæas* are delightfully suitable to grow among hot-house ferns, where their bright hues supply a need.

Let us close this chapter by noting the culture

necessary for Greenhouse Cyclamen, which have been called at once the simplest and the most difficult of the almost hardy plants to grow.

Watering correctly is the great secret, and gardeners do not agree as to this, for some hold that there is no reason why plants should be dried off at all. However, the old method will suit the amateur best.

While Cyclamen are frequently raised from seed, and grown on patiently till of flowering size, the best plan is to buy corms and pot them, just resting in the soil, not covered, any time from July to the beginning of September, and singly in four-inch pots. Use a compost of one part of fresh turf loam, with half parts of clean sweet leaf-mould and coarse silver sand, adding to the mixture a good dusting of bone-meal and many pea-sized bits of charcoal. Keep in cool shady position with plenty of air, and do not allow compost to dry up, though the corms will rot if there is excess of moisture. When plants are about to bud, move the pots into a temperature not above 55°, out of sunshine. After flowers are over water is gradually withheld, and the bulbs must be kept dry but cool, in the pots, till the time of year at which they were first started. Repot then, and try cultivating the same plants a second year.

No doubt it is the delicious scent of the Cyclamen that makes it such a favourite greenhouse plant ; the dark-green leaves, with red-pink stems often, are ornamental even when there are no blossoms : the



GLADIOLI

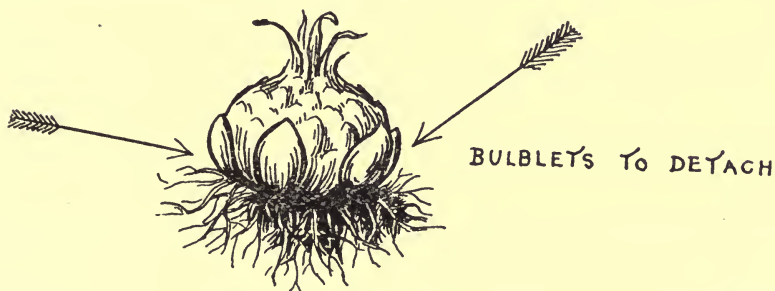
Hooded Gladiolus
(Primrose and Coral)

Early-flowering
'Cardinalis Elegans'
(Scarlet, flaked with white)

July-flowering
'Mrs. G. W. Willock'
(Bluish, with cerise markings)

flowers come prodigally and obtain great size, from prize strains, besides offering rare shades of rose, salmon, lilac, magenta-scarlet, etc. There is a kind with frilled petals, another fringed.

It must be recollected that nearly all bulbs have to be freed, sooner or later, from their offspring—the offsets, or bulblets, that rob nutriment from the parent. One may go on top-dressing big bulbs, re-



LILY BULB IN NEED OF DIVISION.

potting, etc., but the time comes when a more drastic treatment becomes essential.

While the removal of portions of fresh bulbs is easy to understand—say from a Lily clump—the inexperienced gardener dreads interfering with such possessions as *Hippeastrums*, *Clivias*, *Nerines*, etc., yet their absence of, or insufficiency of, bloom is frequently the result of a lack of space.

Perhaps, therefore, it would be well for the timid cultivator to engage the services of a nurseryman owning hot-houses—say every fourth year.

CHAPTER XII

FREESIAS, IXIAS, THE CHILIAN CROCUS, THE EUCHARIS, MORÆAS, ETC.

‘Who loves a garden, loves a greenhouse too.

Unconscious of a less propitious clime

There blooms exotic beauty, warm and snug.’

WILLIAM COWPER.

UNDoubtedly Freesias can be grown wholly in rooms, but they belong to the glass-house, cool or heated, and they take high rank among the flowers that can be had in blossom at Christmas without much cost or trouble.

The recipes for achieving this to perfection are numerous, indeed it is difficult to find two amateur cultivators who are in agreement on the subject. The rules to which I pin my faith are the following.

Mix a compost of one part fresh fibrous loam and half parts of well-rotted, dry, mixed, farmyard manure, baked leaf-mould, and roadside sand ; scatter bone-meal lightly over the heap while preparing it, and add several nuggets of charcoal when covering the drainage holes with broken crocks.

Pot the bulbs in August for gaining December bloom, September for January flowers, and so on each month until the end of December. Place them 2 inches below the surface, eight or nine in a six-inch pot. Stand the August-potted batches on pavement out of doors in sunshine, but put an awning above them and take care they do not dry up. When growth begins accustom them to sun-heat, and water them adequately. At the end of October, or earlier if frosts threaten, take the batch to a sunny greenhouse, frame, or window, where the plants can have plenty of air without strong wind. There must be no attempt to force on *Freesias* until the buds are forming, and then the temperature should be quite moderate.

Some growers bring the plants into some warmth before buds have begun to form, but in my experience this causes many to 'go blind,' in other words, fail to bloom, while the flowers that do come, on the other plants, are papery and do not last well. Modern *Freesias* are immensely superior in texture, stability, size and colour to those of olden days, but require to be healthily cultivated.

By the end of August it is best to put newly potted *Freesias* into cold frames so that the lights can be put on, raised upon bricks, when there are sharp winds or persistent rains. Autumn sun-heat may not be sufficiently strong to draw out the excess moisture rapidly enough to prevent bulbs from rotting, or the compost from going sour.

Or the pots can stand on the floor of unheated glass-houses or in rooms, not in sunshine until growth has well begun.

Freesias are such slender plants that it is necessary to support them, which is usually done by setting slim green sticks round the edges of the pots and passing circular bands of green raffia round these, slip-knotted from one to another. Two or three bands are needed, at different heights, and the foliage will soon lean against them. However, the cultivator who prefers to place a slim tall stick to each plant, tying the latter by a bit of green wool to the former, will secure a more natural result.

It is possible to grow Freesias without sticks, indeed they look very pretty hanging over the sides of suspended baskets or pots, above a layer of moss.

When flower-spikes are rising the plants need much moisture, so the pots may well be stood in saucers of water. Weak liquid manure, given once in seven days, will improve the blossoms.

After plants have flowered, gradually discontinue water, and let the bulbs be dry in the compost until the following potting season, when the best method is to repot without breaking up the balls of soil. However, Freesia bulbs are cheap enough for a fresh stock to be obtained each year for potting, and the old plants, after blooming, can be turned into any hot sheltered border, to remain out. The first Freesia that came into general culture met with cordial appreciation for

its elegance, delicate blend of cream and gold, long duration, and sweet scent, but now we have various coloured named varieties, and also unnamed Hybrids that offer innumerable shades.

SOME CHARMING FREESIAS.

FREESIA REFRACTA.	<i>Creamy white and gold.</i>	FREESIA FAIRY QUEEN.	<i>White, with deep tomato-orange blotch on lower petals.</i>
FREESIA LEICHTLINI	MAJOR. <i>Cream, with orange blotch.</i>	FREESIA GOLDEN STAR.	<i>Prim-rose and gold.</i>
FREESIA CHAPMANII.	<i>Yellow, flushed with gold, and with orange blotch.</i>	FREESIA MAUVE IDEAL.	<i>Lavender, paling to lemon-white.</i>
FREESIA AMETHYST.	<i>Lilac, with white throat.</i>	FREESIA LE PHARE.	<i>Carminé-rose.</i>
FREESIA EXCELSIOR.	<i>Cream, touched with orange. Extra fragrant.</i>	FREESIA REFRACTA ALBA.	<i>Known as the White Freesia.</i>
		FREESIA ROSE QUEEN.	<i>Deep rose.</i>

Ixias are even more graceful than Freesias, for they bear their starry flowers in loose clusters on delicate stems often more than 20 inches long. Some people consider they have a resemblance to the early hardy Gladiolus Byzantinus of the garden, but in reality they are far daintier. They should be put five or six bulbs in a five-inch pot, 3 inches deep, the first batch in October, others at intervals until January. The best compost to use is one of two parts loam, half parts of decayed cow-manure, leaf-mould, and silver sand. Plunge the pots in a bed of cinder-ashes out of doors, against a warm wall, in a frame, or on the ground of

a cold greenhouse. It will be a week or more before there is any need to water gently to keep the soil from drying up. When growth begins care must be taken not to check the plants by allowing the roots to get dry, yet over-watering will rot the bulbs. All the air that is safe should be given *Ixias*. Remove into safety from outside, of course, when frosts threaten, and introduce to a temperature of about 50° when plants are ready to bloom. For the outdoor culture of *Ixias* see Chapter XVI.

As all the colours are pleasing *Ixias* are usually grown from a mixture of choice bulbs, but connoisseurs in this beautiful African Corn Lily like to pot separate sorts as a means of showing them at their best and gaining special colour combinations in the conservatory.

A DOZEN ADMIRABLE IXIAS.

IXIA WHITE SWAN.	<i>White,</i>	IXIA EXCELSIOR.	<i>Crimson-scar-</i>
<i>with indigo eye.</i>			<i>let.</i>
IXIA WHITE QUEEN.	<i>White,</i>	IXIA CRATEROIDES.	<i>Cerise.</i>
<i>with crimson centre.</i>		IXIA BUCEPHALUS MAJOR.	<i>Claret.</i>
IXIA VIRIDIFLORA.	<i>A true</i>	IXIA NITENS.	<i>Magenta.</i>
<i>green, with black centre.</i>		IXIA ENGLISHTON.	<i>Old rose.</i>
IXIA AZUREA.	<i>Azure, with vio-</i>	IXIA QUEEN OF ROSES.	<i>Bright</i>
<i>let centre.</i>			<i>rose.</i>
IXIA EMPEROR OF CHINA.		IXIA DESDEMONA.	<i>Lilac-blue,</i>
<i>Yellow, with black centre.</i>			<i>with black centre.</i>

Ixias are among the cheapest bulbs, the named ones only about a couple of shillings a dozen, so I prefer to pot fresh supplies annually, and put the flowered

potsful into shrubbery foregrounds where sunshine comes and cold winds are shut off. They are very suitable bulbous plants for the borders in greenhouses that are never heated in winter except to keep out frosts, and we can scarcely have too big a supply of flowers of their perfect qualities for vase-filling.

Few persons are acquainted with the little Chilian *Crocus* (*Tecophilæa*), which has blue and white flowers in spring that give off a sweet perfume. Those who wish to know it should pot each bulb singly in a four-inch pot, 2 inches deep, using the compost recommended for *Ixias*. It is necessary to cover the pots over with ashes or coco-nut-fibre refuse in a cool frame or glass-house until growth starts, then cultivate like *Ixias* again, or else keep the plants at all times without any artificial heat. Dry off pot specimens and re-start at the correct months, potting into fresh compost and removing any offsets that may have formed.

One of the ways of becoming renowned as a greenhouse owner is to cultivate quantities of the exquisite white flower known as the *Eucharis*, but a summer temperature of 70° or more, a winter one not less than 55°, and a spring one ten degrees higher than this, must be certain, therefore the greenhouse must be actually a stove. Plants once grown up are kept in active life, not dried off, though little water is needed from October to April. Place six bulbs in a ten-inch pot, using a compost of two parts loam to one part each of decayed sheep-manure and coarse sand, sprinkling all with

powdered charcoal. If there is a hot-bed the pots may be plunged in it to start the bulbs. As the leaves arise see that they are moistened occasionally : throughout its career the *Eucharis* must be syringed, except in damp foggy spells, and spongings of the beautiful glossy foliage is also desirable, about once every ten days, using a teaspoonful of carbolic powder in a gallon of water. Repot once in every four years, then remove any offsets that may have formed, potting them singly in small pots.

An uncommon pot-plant is always welcome in our greenhouses, and few flower-lovers can name the Butterfly Iris, or *Moræa iridioides*, when shown it. The height is a merit, though the variety *Moræa iridioides Johnsoni* is taller still, often towering a yard above the soil. The former is white, with dark blotches ; the latter has orange-blotched white blooms, with lavender in the centre. They are produced in branching spikes, and are attractive for many weeks. One method of culture is to grow five in a small pot, but I prefer three in one of five-inch size. Plant in September or October, then again in January, 3 inches deep, in compost as for *Ixias*, keep covered, or plunged in cold frame or greenhouse until growth begins. Introduce to a temperature of 60° when well developed, to hasten bloom, or cultivate entirely without heat, but protected from frost. Dry off after flowers are over, begin to water very slightly a few months later, and repot when growth again appears. *Moræas* can be used in sunny, sheltered,

well-drained borders out of doors: there are several species, heights vary from $\frac{1}{2}$ foot to 3 feet, colours include blues, reds, violets, and creamy yellow; so the gardener should obtain as many kinds as he can, in addition to those named above, which are familiar articles of horticultural commerce.

Another uncommon bulbous plant is *Anomatheca Cruenta*, also a native of the Cape of Good Hope, and belonging to the order Iridaceæ. It resembles the *Ixia*, blooms naturally from June to October, is crimson, about a foot in height. Five bulbs may be put into a six-inch pot, in September, and then treated like *Moræas*.

Of the interest of a greenhouse devoted wholly to bulbous plants there could be no question, and it is regrettable how seldom floriculture is pursued so as to combine an intellectual feast as well as one of colour, form, and perfume.

Again, the amateur gardener who has other occupations, selected or necessitated, therefore scant time for a hobby, would frequently score finer successes by learning thoroughly how to deal with *one* type of plant, instead of studying vegetables, fruit, hardy annuals, herbaceous perennials, and 'bedding stuff,' with perhaps a flutter at cactus culture and a passing craze for ferns. Of course the needs of bulbs vary, but only in detail; the whole bulb family has common characteristics.

If a greenhouse is not all given up to bulbous plants it is often easy to set apart a portion of it for them, there to display old favourites in modern perfectness,

and new introductions from far fields and mountains, sandy plains and rich-soiled forests. Most bulbous plants in their original forms may be slightly forced when about to develop their flowers, many can be



DOUBLE POET'S NARCISSUS, THAT MUST NOT BE FORCED

had early by merely giving them the protection of glass; the great majority ought to be covered from light and from drying air, from the potting season to the passing of their beauty, so if the gardener is ever in doubt how to manage a rare subject obtained from

abroad, the rules for *Ixia* growing had better be followed. Though *Freesias* are not covered in, they would grow and pierce through either ashes or coconut-fibre without difficulty, provided they escaped the peril of damping-off in infancy. As for suitable temperatures, bulbs from hot steamy regions desire heat or hot-bed treatment to start them, while bulbs from hot arid lands are usually accustomed to lying dormant during winter and will wake to fresh life when they feel genial moisture.

Exceptions to all theories there must be, and they but render theories more fascinating. Who would have imagined, for instance, that while the Double and the ordinary Single Poet's *Narcissus* must not be forced—(the latter pot-cultivated, if kept cool, but the former not even to be conquered in that fashion)—the Single species *Narcissus poeticus ornatus* will bear all styles of culture, even that consisting of china drainless bowls, moss-fibre, sea-shell, and water !

Probably far more of our already known bulbous plants would submit to potting and forcing. And undoubtedly lands far away teem with beauties only waiting to be welcomed in England.

CHAPTER XIII

LILIUMS, CRINUMS, ETC.

‘At Summer’s call the Lily is alight.’

GERALD MASSEY.

THOUGH the Lily is a hardy plant there are gardens in which it can only thrive when represented by the ordinary members of its family ; some of the hardiest but rarer individuals need special soil and well-selected situations, and it is because these have failed so often, through being misunderstood, that they are seldom to be met with except upon large estates in the care of clever men. Thus, while it is correct to counsel garden-owners to grow them out of doors (as I have done in Chapter VII), it is equally correct to advocate their culture in glass-houses together with certain other species that have long been noted as fine pot subjects.

The Lily of all Lilies that is beloved for forcing into early bloom is *Lilium Harrisii*, which is becoming very scarce.

Pot each bulb in a six-inch pot, or three in a tub, covering in no more than half an inch, but seeing that

they are set firmly without being over-hardened. The right compost consists of an equal mixture of loam, leaf-mould, peat, sand, and dry decayed manure, preferably cow-manure pulled into small pieces. Place several nuggets of charcoal in the compost for each pot. Use perfectly washed and dried pots, whether new or second-hand, and it is wise to bake the leaf-mould before use, or even to sterilize the whole compost by pouring absolutely boiling water over every atom, then spreading it out to dry where no insects can reach it. Zinc baths are useful for standing out in sun-heat for this purpose ; if covered by a length of muslin and stood on sharp cinders, they keep the contents insect-proof. Of course, the compost has to be turned over frequently while drying. The potting season is from August to March.

It must be noted that Lilies are potted low down in the pots ; there should first be quite a quarter inch of drainage crocks, or a few large crocks with a pebble layer above them ; then compost, not too fine, to fill the pots a little more than half their depth ; then the bulbs go in, then the inch or half-inch covering of rather finer compost, which should all be used in a pleasantly damp condition.

The Lilies should be carried into cold frames, or unheated greenhouses, rooms, or even light sheds, and be covered over by 2 inches of coco-nut-fibre refuse, or fine cinder-ash.

Another way is to sink them in cinders out of doors,

preferably on a border facing west, or north-east, backed by a wall, and heap 6 inches of sterilized fibre or leaf-mould over the tops of the pots, to lessen the amount of rain that will reach the roots. If this is done, it is essential that the cinder-bed is so deep that there are several inches of it *below* the pots when they are sunk. I have known gardeners simply stand pots on earth and heap cinders around and above them, which does not protect the plants at all because any insects in the ground are able to creep up the drainage holes of the pots. A north border can be made use of, if that is more convenient. When growth begins to pierce the covering material, the outdoor Lilies should be taken to a cold frame, or into the greenhouse, and sparingly watered. When the Lilies in frames, or greenhouse, have made about 6 inches of growth, they, too, will need watering with caution, after top-dressing with compost, to nearly fill the pots.

Or the Lilies can be put at once (from out of doors, or from frames, or cold glasshouse) into a temperature of 50° to 55°. Kept on a high shelf by the glass roof they will not straggle up, and a shading of soft paper—the familiar crinkled art paper in green is best of all—laid lightly over the soil and removed before waterings, will preserve the surface-roots from being sun-scorched.

It is because many Lilies spread roots visibly over the compost that top-dressings are needed, and this shading is advisable. The usual method is to top-

dress all at once, as described, but I prefer to do it by two operations, not bringing the compost nearly to the pots' rims until rootlets have again shown. When flowers begin, weak liquid manures can be given twice in eight days. It is excellent to give in succession liquids made with cow-manure, with horse-manure, with an ounce of soot steeped twelve hours in a muslin bag, in each two gallons of rain-water, or with one ounce of guano steeped eighteen hours in two gallons.

Lilies about to unfurl their buds can be hastened in a temperature of as much as 65° , but the more heat the more water will be needed. Full-grown plants always require plenty.

After *Lilium Harrisii* goes out of bloom, water must be decreased, then stopped, all but a watering by immersion often enough to prevent absolute drying up—probably this will be once a week if the pots are stood, as they should be, against a south wall in the open, with a roofing of boards or tent-canvas above them. In six or seven weeks the bulbs will have ripened, and gentle waterings will be needed to encourage them to develop in other ways.

I restart my *Liliums* by taking the bulbs out of compost, and plunging them in damp coco-nut-fibre refuse till they swell up plump—then repot them like the newly bought bulbs. The latter are also the better for the 'swelling' process, I believe. Any broken or decaying scales of the bulbs should be

taken off, pared away by a sharp knife, and the place rubbed with clay and sand.

Another refinement of culture is to cover each Lily bulb, in each pot, with a small inverted flower-pot before covering with cinder-ash or fibre. This prevents their being pressed on by the damp material, and facilitates examination when growth is searched for.

Other Lilies than *Lilium Harrisii* should be altogether dried off by degrees, after they have bloomed and the foliage has yellowed, or the flower spike died down; except, perhaps, the Madonna Lily (*Lilium candidum*), which should be potted in August or September, and kept out of doors, or in pits without heat, until winter threatens, when it may inhabit a cool greenhouse immediately beneath a ventilator of the roof. It is possible to hasten this familiar Lily a very little, when bud spikes arise. Its bulbs, after flowering, I plunge in their pots beside the other Madonna Lilies in the garden.

Lilium Harrisii, by the by, *can* be grown in china undrained pots of moss-fibre and sea-shell, and flowered in seven months.

The beautiful *Lilium auratum* does best, with me, when not bought until January or February, and potted then. But my own bulbs I have preferred to pot in October.

Another cultural method, pursued by some successful growers, is to repot *Liliums* immediately after the foliage has 'failed' after flowering. The flower stem

is cut away, of course, and the ball of soil is removed without being broken. This suits *Lilium auratum* especially well.

For a description of many beautiful Lilies, Chapter VII should be consulted.

Some species and varieties most charming for pots may be mentioned here, however.

BEAUTIFUL POT LILIES.

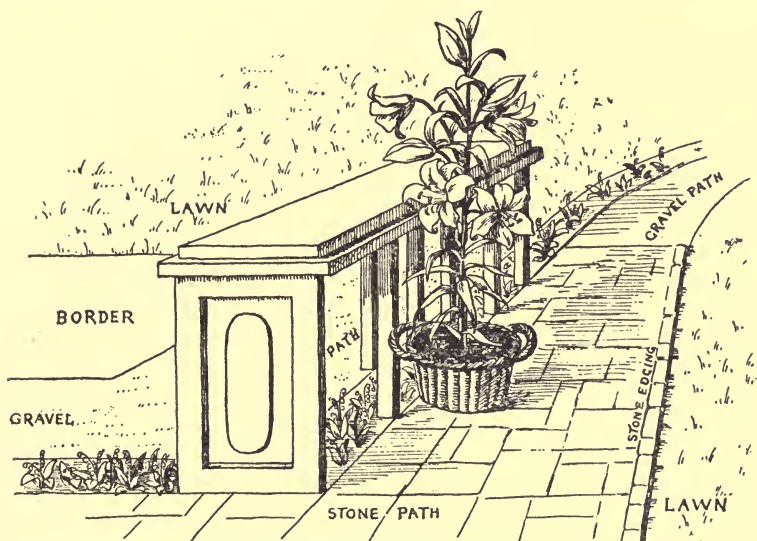
- | | |
|--|---|
| LILIUM ELEGANS ORANGE
QUEEN. <i>Orange, black-spotted.</i>
20 inches tall. | <i>spotted with crimson. 1½ feet.</i> |
| LILIUM ELEGANS SANGUINEUM.
<i>Crimson, spotted maroon.</i>
1½ feet. | LILIUM TIGRINUM FORTUNEI.
<i>Orange-scarlet, spotted with
maroon-crimson. 6 feet.</i> |
| LILIUM LONGIFLORUM FORMO-
SUM. <i>A substitute for the
white Harrisii.</i> | LILIUM UMBELLATUM INCOM-
PARABLE. <i>Rich crimson,
spotted sepia. 2 feet.</i> |
| LILIUM LONGIFLORUM FORMO-
SUM EXIMIUM. <i>Dark stemmed.</i> | LILIUM UMBELLATUM SAPPHO.
<i>Scarlet and orange. 2 feet.</i> |
| LILIUM LONGIFLORUM GIGAN-
TEUM. <i>White. Tall.</i> | LILIUM TENUIFOLIUM. <i>Scarlet.</i>
<i>Slender stemmed. 1½ feet.</i> |
| LILIUM AURATUM WITTEI.
<i>White, with gold band down
each petal. No spots. 4 feet.</i> | LILIUM MARHAN. <i>Yellow and
brown, spotted crimson. Of
uncommon appearance. 3½ feet.</i> |
| LILIUM BROWNII, var. ODORUM.
<i>Yellow, fading to cream, brown
reverse to petals. 3 feet. Per-
fumed.</i> | LILIUM RUBELLUM. <i>Pale pink,
with gold anthers. A dainty
little Lily, that will force. 1½
feet.</i> |
| LILIUM BULBERIFERUM. <i>Erect
scarlet and orange flowers,</i> | LILIUM SPECIOSUM MAGNIFI-
CUM. <i>Crimson, with white,
and spotted purple. 3 feet.</i> |

Lilium Longiflorum formosum and *Longiflorum formosum eximium* may be grown three bulbs in a six-

inch pot if desired. So may Lilies of small bulbs, but for the others of normal size, culture as for *Lilium Harrisii* in this respect should be followed, while Giant specimens can be given a seven-inch pot, or tub, each.

The Greenhouse Crinums are grand flowers to specialize in ; most are pure white, but some are red and purplish, and the average height is 2 feet. I prefer to put three bulbs in a ten-inch pot, in March, the tops of the bulbs not covered, using a compost of three parts loam to one of peat, and mixing a heaped teaspoonful of bone meal, and about half a pint of fine silver sand with every pot's portion. A temperature of 60° will suffice, but Crinums can endure far more if there is ample air as well, and plenty of light and moisture. It is well to lay damped coco-nut-fibre over the tops of the bulbs till growth begins. Give liquid manures only when the pots are filled with roots. The old practice of drying off the plants after flowering is now frequently exchanged for the custom of lessening the water supply, then *almost* stopping it, and exposing the plants—especially the sides of the pots—to all the sun heat obtainable, in an even hotter part of the glass-house than that occupied for blossoming. *Crinum Powellii*, pale rose, or *C. Powellii album*, white, are half-hardy, so can be grown in pots for a cold conservatory. Attention must be directed towards the Blood-flower, or *Hæmanthus*, because the scarlet and crimsons are of intense merit in a glass-house when grouped round Crinums

and Liliums for contrast. The heights are from 9 inches to 1 foot only. On securing bulbs, which may well be bought in mixture of greenhouse species, plant three in a five-inch pot, filled with a compost of one part peat, half parts of sand, and decayed horse-



LILY GROWN IN A BASKET.

manure, to two parts of loam, leaving half each bulb above soil, then laying dry leaf-mould lightly over as a covering. Stand in temperature of 55° to 65° , *out* of sunshine till the plants are growing fast, then *in* it. August is the best planting month, but some bulbs can be kept a little later. Water slightly at first, then more fully; withhold water after flowers are

over, and keep dry, but in shade, when the foliage has yellowed. Feed with the usual weak liquid manures while in bloom.

Lilies are beautiful ornaments for standing on terrace walks, or by steps, and pots of them look well sunk in large baskets, their rims hidden by layers of baked moss. There could be no fairer additions to town balconies.

CHAPTER XIV

BEGONIAS, GLOXINIAS, STREPTOCARPUSES, ETC.

‘In curious order set
The fairest flowers of Eastern land.’

THE Tuberous Begonia was, once upon a time, a monotonous flower, as seen in England. Probably nine gardeners out of every ten are now unaware of the marvellous beauty to which it has attained, or the amazing diversity of colour and shape that it can offer.

Some persons regard it as just a bedding plant. Well, it may be used in the beds during summer, for the sake of the garden—never for its own sake. Why expose petals of wax—wax with a peach-bloom on it—to hail, and wind, and sun heat after rain? Does it not stand to reason that if one wants perfect flowers of this plant one must cause them to open under shelter? And glass is the ideal protector. I am not sure that Begonia growing is not the easiest hobby the amateur greenhouse gardener can take up.

Obtain tubers from a Begonia specialist, if possible ; if not, from a reliable firm of bulb merchants. If there is a glass-house temperature of from 60° to 70° start culture in January ; otherwise wait till March.

The first procedure is to induce the tubers to sprout. Press them lightly into damp compost, or coco-nut-fibre refuse, in a shallow pan or box, leaving the top of the crowns visible ; place in a genial spot, but do not let sunshine reach the tubers. Water sparingly. Very soon growth will begin ; tiny irregular markings of pink, red, green, on the tubers will turn out to be the commencements of leaves. When growth is 2 inches high lift each tuber very tenderly, soon after watering them, so that compost does not fall away from the roots. Four-inch pots should be ready filled to contain one each, even the little hole to drop each into should be there. Use a compost of two parts turfy loam, one part leaf-mould, one part thoroughly decayed horse-manure, with about a quarter of a part of coarse silver sand.

Growth, in the hot greenhouse, will be rapid, and, as soon as the roots reach the sides of the pots, the plants should be shifted on into the next-size-larger pots, never into any bigger. That is the routine for culture—shift on gradually. I generally use four-and-a-half inch pots after the four-inch, then five-inch, then six-inch, for flowering in. But a few big specimens can be flowered very handsomely in a seven-inch pot, or three Begonias may be grouped in a nine- or ten-inch.

Full sunshine will be damaging, and lack of water will be ruining. Of course, soil may go sour if kept overcharged with water. If the atmosphere of the house is too dry it is prudent to spray the Begonias, after sundown, using a small scent-spray ; but it is easy to prevent over-dryness in air of any glass-house, since a few uncovered pans or buckets of water stood there will cause heat on the roof to draw up moisture, and that will descend again in drops. Needless to say, flowers, and many kinds of handsome leaves, should be out of the way of any drip.

Though Begonias require much air, special precautions should be taken against cold winds and rough winds, or concentrated draughts ; the two last-mentioned evils will shake off the blooms, possibly even the buds, and blow leaves against petals sufficiently to bruise them.

Directly the plants are nearing full growth, or even rather before that stage, they may be encouraged by a weak solution of mixed farmyard manure and of sheep-manure alternately, every fourth day. Sticks and ties should be provided early, because the stems are exceedingly brittle.

It is a mistake to let pot Begonias flower themselves 'out,' I believe : when the blooms have been very handsome a crop of smaller ones may follow, but before long the stamina of the plant suffers ; and it must be remembered that tubers are valuable. So, instead of greedily persuading plants to yield bloom

after bloom, lessen the water supply, gradually withhold water, and allow the soil to become quite dry. Range the pots on their sides on a high sunny shelf until November, when remove the tubers and place them in dry coco-nut-fibre refuse until they are required for potting again, from January to March.

Tuberous Begonias can be grown well from seed, which must be sown on the damped level surface of compost, in shallow pans, in a temperature of 65° in March; or in a lower temperature if pans can be plunged in a hot-bed. However, seedlings will need 55° when growing on, after being potted. Cover each pan with a sheet of glass, and lay brown paper over the glass, until growth appears, when remove the paper, and wipe and reverse the glass twice a day. Directly the seedlings are a quarter-inch high the glass should be supported on bits of cork so that it stands a trifle above the pan's edge, and a little air is admitted. Gradually raise the glass sheet higher, and then remove it; but beware of allowing sunshine to play on the seedlings.

It is a convenient plan to stand four big cotton-reels outside a pan, and lay the glass sheet upon these.

Most of the charming types of Begonias are obtainable from seed. Tubers of separate coloured varieties can be ordered, or the chances taken of a mixture.

SOME SPLENDID KINDS OF TUBEROUS BEGONIA.

PRIZE DOUBLE.	<i>salmon-pink, apple-blossom</i>
PRIZE SINGLE.	<i>pink, rose-pink, scarlet, crimson.</i>
SEPARATE COLOURS IN DOUBLES OR SINGLES. <i>White, cream,</i>	FRILLED SINGLE.
<i>yellow, orange, salmon-orange,</i>	SINGLE CRESTED.

A CHOICE AMONG NAMED DOUBLE BEGONIAS.

DUCHESS OF PORTLAND. <i>Deep orange.</i>	REV. H. L. FRY. <i>Scarlet.</i>
KING EDWARD VII. <i>Crimson.</i>	EARL OF DERBY. <i>Deep rose.</i>
LADY CAILLARD. <i>Lemon.</i>	EMPRESS MARIE. <i>White.</i>
LORD DALMENY. <i>Orange-scarlet.</i>	JOHN G. WHITE. <i>Shaded pink.</i>
MRS. A. P. BRANDT. <i>Blush-pink, crimped.</i>	<i>Scented.</i>
MRS. W. L. AINSLIE. <i>Deep yellow.</i>	MRS. BRUCE. <i>Magenta-rose.</i>
	PRIDE OF BEXLEY. <i>Salmon.</i>

Prices of these vary from five to seven shillings each. Gardeners who are willing to pay more would do well to write to some Begonia specialist for a catalogue of modern triumphs.

I can strongly recommend the cultivation of some of the tuberous-rooted dwarf Bedding Begonias, in pots. They are not known as they deserve to be, and are exceedingly useful in forming plant groups, or massing round large plants on the stagings to hide the pots; or they may be grown in hanging baskets.

DWARF TUBEROUS BEGONIAS.

MAJOR HOPE. <i>Rose-pink.</i>	WORTHIANA. <i>Single. Orange-vermilion: the best for baskets.</i>
HAMPTON COURT. <i>Deep pink.</i>	GOLDEN CROWN. <i>Yellow.</i>
PHOSPHORESCENS. <i>Scarlet.</i>	DORIS. <i>Pink, with white centre.</i>

In addition there are Tuberous Small Begonias of naturally pendent habit, that will fringe shelves.

BEGONIAS FOR BASKETS, ETC.

GLADYS. <i>Deep red.</i>	ALBA	PLENA	FIMBRIATA.
GOLDEN SHOWER. <i>Pale orange.</i>	<i>White.</i>		
MRS. BILKEY. <i>Salmon-orange.</i>	CARMINIA.	<i>Carmine.</i>	

Any of the dwarf Begonias, also Crested, Singles, and Frilled, are very suitable for window-box filling, the pots being sunk in coco-nut-fibre refuse to the rims and a layer of baked moss, or of the fibre, laid over the compost so as to hide all pottery and preserve moisture in the soil. A sunny position is not dangerous if this method of culture is adopted, for outdoor sun heat does not scorch like sun heat through glass.

The Gloxinia is altogether a plant for the hot greenhouse, pit, or stove, yet can be grown in any glass-house that provides a temperature of 65° from January to October, and one as low as 50°, *sure*, from October to January. A summer heat of 75° is not excessive.

Mix a compost of equal quantities of peat, loam, leaf-mould, old decayed finely dessicated horse-manure, and add about a quarter of a quantity of silver sand. See that either three-inch or four-inch pots are ready, washed, dried, and well 'crooked' for drainage. Put in the compost, just moist but not sticky, to within an inch of the rim of each pot : press one tuber slightly into each, *just* cover with compost, and place pots close to top glass, yet not exposed to sunshine. By

painting the glass green the requisite shading is easily obtained, or the natural protection of a roof-climbing plant can often be made use of.

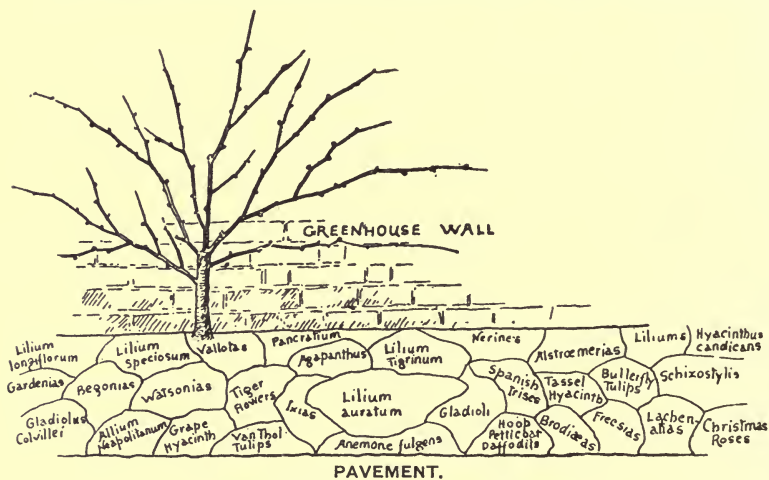
Keep from drying up. When growth is well observable shift the plants into five-inch pots, without breaking the balls of soil. They may flower in five- or six-inch size pots, according to the apparent requirements of the plants. Give weak liquid manures, when buds begin. Dry off after blooming, and store for future use.

Gloxinias are raised from seed, without difficulty, in a compost of very finely sifted peat and leaf-mould, in pans, in a temperature not less than 65°. Sow on surface, and treat as Begonias from seed. Colours range from lilac to purple, pale to deep violet-blue, palest blush, through rose to carmine and darker crimson, white, scarlet, etc., and the leaves are as beautiful as flowers. There are curiously edged, marked, and spotted varieties also.

Streptocarpuses, blue, white, rose, etc., have been called Miniature Gloxinias, because they too are blossoms with long throats and beautiful leaves. They grow from 7 to 10 inches high, as a rule, need slightly less heat, should be given rather more plain loam in their compost, and be started in March or April, in a temperature of about five degrees less. They should not be quite dried off after they have bloomed. Three or more plants look best for greenhouse decoration, in a six-inch pot.

Seeds may be sown first in February, and, as plants will bloom in five or six months' time, successive batches can be arranged for.

Gloxinias and Streptocarpuses can be well cultivated



BULB BORDER IN GREENHOUSE.

in heated fern-houses, if syringing can be regulated ; although they relish a fairly damp atmosphere, showers of wet spoil their velvety textures.

Perhaps Begonias look their very best when seen in a border inside the greenhouse. I would sink pots of the Giants, and plant out smaller sorts.

CHAPTER XV

TUBEROSES, PANCRACTIUMS, CALLAS, LACHEN- ALIAS, TROPÆOLUMS, ETC.

‘ Plant behind plant aspiring, in the van
The dwarfish, in the rear retired, but still
Sublime above the rest, the statelier stand.’

WILLIAM COWPER.

THOUGH the Tuberose is described usually as a half-hardy bulbous plant, and can be grown out of doors in favoured localities and the finest positions, there can be no doubt that it is a hot glass-house beauty of such rare excellence that no heated conservatory should be without it. The elegance of its three-feet stems, bearing the cream-white waxen blossoms, enables it to tower above the majority of greenhouse flowers, and gives the gardener the opportunity to alternate it with the blue leadwort (*Plumbago capensis*), or pink Oleanders, tall Lilioms, and other of the usual background flowers, among such foliage subjects as *Ficus radicans robusta variegata*, *Aralia elegantissima*, Palms, and Musas. In fact, it is a great deal more valuable under glass than in the open.

When inexperienced gardeners speak of the plant they are generally thinking of the American varieties, called Pearl Tuberose; but the African kinds are longer developing, consequently by potting bulbs of these from October to December, and the more familiar and cheaper Americans from January to April, the flowers can be possessed from autumn to late spring.

Bulbs should be placed singly in five-inch pots, or three in a seven-inch, in my opinion, though I have frequently seen plants blossoming in four-and-a-half pots of extra depth, or three in an ordinary six-inch one. They should be about two-thirds of their depth deep in the pots, the remainder of the bulbs protruding, and an admirable compost consists of equal parts of the best loam, thoroughly rotted cow-manure pulled into small pieces, and coarse roadside sand. The drainage crocking must be most carefully done, and on the crocks three or four little nuggets of charcoal should be laid.

The after-treatment can depend on the resources at command. Either stand the pots on cinders in a cold frame or unheated cool greenhouse, cover over with 3 or 4 inches of coco-nut-fibre refuse, keep just moist, and remove into a greenhouse of 55° when growth is vigorous, or plunge the pots in a box of damp fibre placed over a boiler or pipes in a glass-house of 60° to 70°, then stand out in the same house, or where the temperature is even higher, provide air

enough, and water freely. But the slower method is, naturally, the safer.

The American or Pearl varieties will also succeed if the bulbs are potted in April, plunged in their pots in cinder beds, in the warmest spots of the garden, yard, roof-top, or balcony, and removed to the moderately warm greenhouse to blossom in October. The drawback to this is that 'moderate' glass-houses are mostly only warmed by sunshine in summer, and artificial heating not resorted to until November; a cold day, meaning a sudden drop in temperature, or failure to give heat soon enough in autumn, would ruin the Tuberose promise, by causing the buds to drop off.

When flowers are being made the plants need copious water supplies, and liquid manures twice a week.

The bulbs must not be kept after they are bought, as they will shrivel. Old bulbs are of no use, so it is a happy fact that they are quite inexpensive.

Before potting bulbs it is wise to trim them with a knife, removing all old roots, side shoots, buds and broken fragments; a little compost, or a dusting with charcoal, will prevent the wounds from bleeding.

Gardeners who have begun to grow *Pancratiums* are always loud in their praise, which makes the general neglect of them surprising and unfortunate. Perhaps they might become better known if given their other name of Mediterranean Lily. They are

not lily-like, however, except in being white and fragrant ; but then neither do they resemble daffodils, in spite of being known, in their smaller species, as Sea Daffodil. The greenhouse *Pancratiums* grow about 2 feet tall, are free-blooming, creamy white, have an exotic look that charms every one, considerable elegance of shape, and *Pancratium fragrans* has also a sweet scent.

Pot bulbs singly in six-inch pots, in March, 2 inches deep, but letting the covering soil be so lightly laid that it is nothing more than a mulch. Use a compost of two parts loam to one of old manure, and half a part of coarse silver sand. Stand pots in the greenhouse, in temperature not higher than 50° at first ; a summer advance to fifteen degrees will suit well, but during winter the plants cannot do with more than the 50° again.

Watering should correspond with the growth and the temperature : rising gradually in quantity, declining gradually, and almost ceasing from December to the beginning of March. I do not let *Pancratium* bulbs ever go dry as stones. The plants should not be repotted for at least three years, and should receive liquid manure occasionally during the flowering season. *Pancratium parviflorum* is a very liberal bloomer.

The Calla, usually called the Arum Lily, is, scientifically, the *Richardia Africana*. Nobody need fear failing with it, if there is a moderately warmed green-

house at command. The common compost, equally made of loam, leaf-mould, old cow-manure, and coarse silver sand, will do, but it is better to omit leaf-mould and double the quantity of loam.

There is no bulb, properly speaking—only clumps



ARUM IN NEED OF DIVISION.

with thickened stems or roots, but I have thought best to deal slightly in this book with so popular a 'Lily'—that is not a Lily at all, except by repute.

The amateur gardener should buy a plant ready potted, in March, put it in the greenhouse, water it

liberally till it has bloomed, plant it out then, or plunge it in its pot in a sunny position in the garden ; lift it in late August, or early September, and repot it. Single plants should bloom in five-inch pots, but specimen clumps can be obtained by potting on three single plants together in a seven-inch, and so on. Plants can be divided, propagated by rooted suckers, at the annual repotting season of August or September. There is a dwarf variety, and one with yellow-variegated foliage.

Water must be liberal while Arum Lilies are out of doors, unless the weather is rainy, and while in pots they need less water from autumn to spring (counting March as springtime), then plenty until May, for it is usually at the end of the last month that they are first stood out, then planted out, or immediately 'plunged.' The winter temperature for this African *Richardia* can be quite low : even 40° will suffice, or fifteen more degrees can be borne ; in the months from March to May 50° to 60° will be correct. Some compound fertiliser solution, or half an ounce of Peruvian guano in a gallon of water, will stimulate the plants satisfactorily from the beginning of florescence to its cessation.

Richardia Hastata is my choice of a yellow variety.

At most Spring Flower Shows of late years exhibits of Cape Cowslips, or *Lachenalias*, have made visitors eager to grow some. The bulbs cost from five to ten shillings a dozen, not allowing, of course, for any

fancy prices of new introductions, should be obtained in August, and put in at once, three in a five-inch pot, or more if pretty groups are more desired than the finest flowers.

Opinions differ as to the right depth. I could quote noted authorities who say only $\frac{1}{2}$ inch deep, and others who advise $2\frac{1}{2}$ to 3 inches. Personally, I vote for 2 inches, and top-dressing can be given later. Use a compost of loam, leaf-mould, very old cow-manure, and coarse river-bed or roadside sand. Drainage arrangements must be adequate, and the addition of a little powdered charcoal to the soil is a safeguard. Place the bulbs on a sprinkling of sand. Put the pots into an airy greenhouse or cold frame, not exposed to full sunshine, yet close to glass, until November, giving scarcely any water. Then place them in a sunny position in a greenhouse with a certain temperature of 45° , or as much as 55° . From the time the foliage is made, to the end of the flowering, *Lachenalias* want a good deal of water, and as the buds begin I like to apply a thin mulch of old cow-manure sprinkled with fertilizer, which feeds them excellently.

If liquid manures are given, instead of a mulch, these must be discontinued as soon as the buds are opening.

When blossoming ends the plants should be exposed to sunshine, either out of doors stood on cinders or in cold frames. Water is gradually withheld, and the

bulbs then ripen. *Lachenalias* are as charming as *Achimenes* for filling hanging baskets or wall-pockets. The flowers are yellow, yellow-green-and-red, and crimson-and-green.

The tuberous *Tropæolums* are most meritorious, and here we meet with climbing plants that count among bulbous ones, fit for wreathing pillars or covering trellis-work, or netting against walls, or making canopies across the inner roof of green-houses.

The familiar type is *Tropæolum tuberosum*, which has red-and-gold blossom, and will survive out of doors, in dry sunny situations, if tubers are lifted like those of *Dahlias*. It is a good tub plant, undisturbed, in a moderately warmed greenhouse, unless there is too much damp; or may be lifted annually, then replanted. It thrives in poor soil.

Tropæolum azureum, blue, only grows to a height of 3 feet, *Tropæolum tricolorum* to as much as 10 feet, being a colour blend of red, gold and black. Give these greenhouse species a compost of peat, leaf-mould, loam, and silver sand in equal mixture. Start a tuber in a four-inch pot, 1 inch below the compost surface, in August or October; stand the pot in a glasshouse of from 45° to 55°, and see that the contents do not dry, but water very little until the growth is well up. Then replot tenderly into a six-inch pot. Train the delicate branches to strings, sticks, or painted wire, and give liquid manures now and then

when buds show. After flowering is finished the foliage turns yellow, and then no more water should be given. Pull down the dried dead branches, and put the pots in a cool shelter of some sort. The greenhouse temperature for blooming them is from 55° to 65° , but that is too hot for the plants afterwards, during the short period before they are restarted. This is done by repotting them in the same-sized pots, but new compost.

For making a greenhouse gay the Indian Shot Plant, or Canna, is of great value. The tubers can be bought, in fine mixture, in March, potted singly in six-inch pots of ordinary rich compost, and started in moderate heat. When growing freely they can be well watered, and can endure a really high temperature, in spite of the fact that they can be bloomed out of doors, or in sunny room windows, by gardeners who have no hot-houses. After the gorgeous vermilion, yellow, salmon, blotched, spotted, striped blossoms are over water must be gradually withheld, as the roots need a time for rest. Cannas increase rapidly, so soon require dividing. For their culture from seed see Chapter XVIII.

Pots of Lilies of the Valley are a source of such pleasure that space must be spared for the subject.

It is best to buy 'crowns,' which are single roots. Twelve or fifteen may go into a six-inch pot, which should contain equal portions of good fresh loam and leaf-mould. Potting may begin in October.

Cover each pot by inverting another six-inch one above it, and stand them in a cold frame, airy shed, room, or unheated greenhouse, until January, taking care meanwhile that the compost never dries up. From then onwards either keep them in the ordinary conservatory, or, after ten days or so in an intermediate temperature, introduce them to a high one. Pots of Lilies of the Valley brought into a forcing-house in November, after being potted as above, will soon bloom.

Now that 'retarded' crowns are obtainable, the Lily of the Valley can be had in blossom nearly all the year, from pottings in autumn, winter and spring. The recipes for using these and the other bulbs are astoundingly varied.

Pots may be plunged in coco-nut-fibre that is kept damp, instead of having inverted pots over them. Or they will succeed in bowls of moss-fibre and sea-shell, and if put into a box thus in a hot-bed, or above a hot cistern, can be forced into flower in less than a month. In fact, pottings may be undertaken at intervals from September to April ; then, so long as the roots never lack moisture, and the green growth is gently sprayed, or can feel a moist atmosphere, the batches can be flowered leisurely, or hurried by stove heat.

The 'crowns' are usually *barely* covered by compost. They can be grown touching each other for rapid forcing, or two or three inches apart, and are often

cultivated in boxes, for cutting. Forced bulbs should be thrown away.

There is now a pale pink variety of the Lily of the Valley.

PART III
HALF-HARDY
BULBS

CHAPTER XVI

SPARAXIS, BABIANAS, TIGER FLOWERS, STERNBERGIAS, ETC.

‘ . . . Many blossoms have been born
And fill the garden, row on row.’

CONSTANCE GOODWIN.

A SOUTH-FACING border, backed by a wall, may be turned into one of the most fascinating portions of the garden, large or small, by devoting it entirely to half-hardy bulbous plants. If there is a rockery edging, or a mound or two rockered over, here and there, facilities for cultivating countless of these rather delicate beauties will have been increased.

But, of course, many of the half-hardy bulbous plants can be used, too, to adorn beds in sunny lawns or front gardens, and be removed from them to finish off their growth elsewhere, before being stored during winter.

The Sparaxis is a plant that is often spoken and written of ignorantly, the fact being ignored that the type species, *Sparaxis pulcherrima*, is a very tall grower, the magenta-purple flowers often being borne

4 to 5 feet high on thin wiry stems in autumn, while *Sparaxis tricolor* is not more than 2 feet tall. But then scientists declare the former is not a *Sparaxis*, properly speaking, but a *Dierama*. However, I would advise all possessors of a south-wall border, or warm rock-garden, to locate *Sparaxis pulcherrima* in it, introducing it to friends by its prettier title of Wand Flower.

Other *Sparaxis*es can be added; they offer gay colours, red, yellow, crimson, lemon-spotted with black, scarlet-green-and-gold, dull rose-and-indigo-black, as well as white.

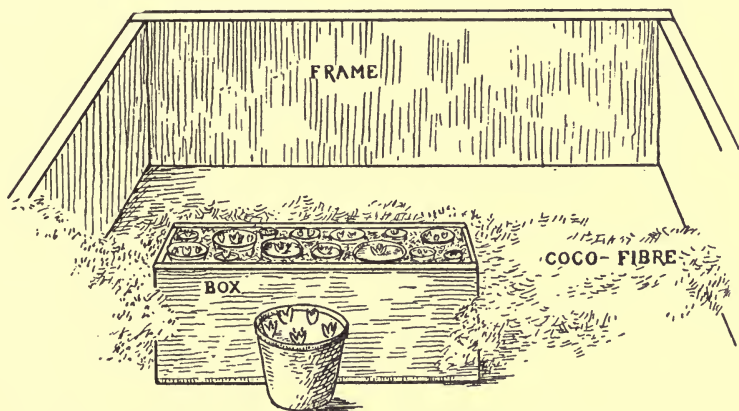
This border, or the rockery spaces, must be well mulched each October, or early November, with a mixture of cinder-ashes and leaf-mould: this ought to be tenderly drawn off in spring, and some thoroughly rotten cow-manure substituted. With these precautions, half-hardy bulbous subjects will succeed, except in the worst localities.

Plant *Sparaxis* bulbs in September or October, 3 or 4 inches apart and 4 inches deep. Lift them after they have bloomed, dry as for Hyacinths, and replant annually.

Pot *Sparaxis* bulbs (*Sparaxis tricolor* and any other of the lesser kinds) seven or eight bulbs in each six-inch pot, from October to December. Keep the pots under glass, in the cool, covered by coco-nut-fibre refuse till growth begins. They may next inhabit a moderate greenhouse. Water slightly then,

more later ; dry off gradually as flowers fade, then keep in the pots until they are repotted for another season.

The Sparaxises can be gently forced by introducing them to heat when buds have formed, but forced plants should be relegated to a rockery somewhere, and fresh ones potted each year. Another merit is



POTS OF GROWING BULBS, AFTER BEING BURIED IN COCO-FIBRE,
IN BOX, IN COLD FRAME.

that the flowers are delicately scented. A familiar name for this many-tinted blossom is Harlequin Flower.

Less agreeable is the title Baboon Root for another half-hardy member of the order Iridaceæ, the *Babiana*.

This too is a flower of numerous colours : blue, lilac, gold, scarlet, rose, red, etc., sweetly perfumed, and delightful for vase-filling. If plants are given liquid

manure twice a week, immediately buds show, the flowers will be very fine and the colours extra brilliant. Outdoor planting should be done in November or December, as earlier introduction to the ground might cause too rapid development, which winter frosts would kill. Potting can be done any time from September to January; and the culture suitable for the *Sparaxis* may otherwise be followed. The height is about 1 foot, the leaves are silvery-green and woolly.

The Tiger Flower, or *Tigridia*, deserves some of the most important positions, and if it is flowered well in a bed on a front garden lawn, visible from a road, a great deal of interest will be aroused. The marvel is that we do not all cultivate *Tigridias*. They are exquisite, curiously formed, strongly resemble orchis, give vivid yellows, reds, vermillion too, violet, purple, crimson and white. It has been truly said that their appearance suggests that they are hot-house subjects. The following remarks on their culture out of doors, and under glass, are borrowed from a very old book.

‘This flower thrives best in a light, rich and rather dry soil, and does not agree with stiff clay, nor with poor sand. Peat should also be avoided.

‘The roots should be planted in rows, 8 inches apart, taking care to leave the top of the crown uncovered with the soil.

‘If it be required to have them flower early, let them be planted in pots and placed in a vinery about

the beginning of February : otherwise, plant them in the open ground at the beginning of April.

‘The best compost to grow them in is composed of one-third of fresh light loam, one-third of pit or river sand, one-sixth of leaf-mould, and one-sixth of rotten dung. The roots must *never* be planted so deep as to have the earth covering the crowns.

‘In taking up the bulbs it is necessary to have them well ripened and as free from moisture as possible, since they are very liable, when out of the ground, to become mouldy and rot.

‘If they are planted in a very dry light soil in front of a greenhouse, the roots may often survive our common winters without injury ; but this is not to be depended upon, and therefore it is best to take them up before the setting in of frost ; and if not ripe, take them up with balls, pot them, and place them in a greenhouse.’

Modern culture for the cool greenhouse requires a compost of two parts loam, one part peat, and one part sand. But I have grown *Tigridias* satisfactorily with leaf-mould in place of the peat that our old-world author declared was to be avoided. It is best to pot bulbs singly in four-and-a-half-inch pots, lest they damp off when grouped in more room ; yet the effect of three plants blossoming in a six-inch pot is so superior that it should be tried by the ambitious cultivator.

I always ‘leave the top of the crown uncovered’

when potting, but not when planting bulbs out ; in the latter instance I cover by dry coco-nut-fibre refuse, then by cinders, through which wet can only filter, and I give the beds a sharp slant on all sides.

Pot plants should be covered with cinder-ashes in cold frames or the cold greenhouse, and shaded from sun, then be removed to a light airy place when growth has started, and into sunshine when about to flower. Regulate the watering as usual, dry off after blooming. Then take out the bulbs, lay them in a drying spot for a day or two, then put them into string or netting bags and hang them in some attic or shed, out of sunshine and away from damp.

It is quite worth while to specialize in the Tiger Flower, growing named varieties.

SPLENDID TIGRIDIAS.

TIGRIDIA PAVONIA.	<i>Scarlet and orange.</i>	TIGRIDIA GRANDIFLORA ALBA.	<i>White and yellow, blotched with brown.</i>
TIGRIDIA AUREA.	<i>Gold and chocolate.</i>	TIGRIDIA ROSEA.	<i>White, rose and maroon.</i>
TIGRIDIA CONCHIFLORA.	<i>Yellow, spotted with vermilion.</i>	TIGRIDIA LILACEA (or RUBY QUEEN).	<i>Mauve-magenta and white, spotted with chocolate.</i>
TIGRIDIA GRANDIFLORA.	<i>Scarlet-crimson and gold.</i>		

March is, I think, a safer month than February for outdoor planting, and the beautiful flower harvest may be looked for from the end of June to the coming

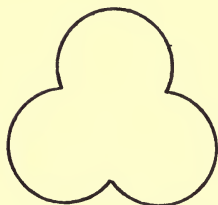
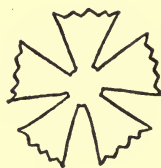
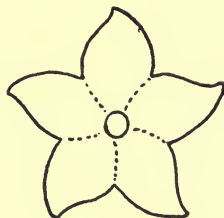
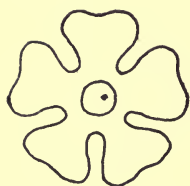
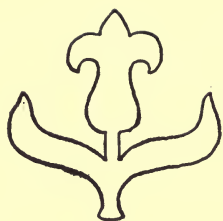
of October. Tiger flowers only last, individually, one day, but buds are constantly opening. They are also called Peacock Flowers.

There is a lovely little late autumn-blooming flower called the Lily of the Field by some, the Winter Daffodil by others. It is more like a tiny Lily flower with upturned chalice than any Daffodil, and is a peculiarly rich gold. Old gardeners believed it to be a miniature *Amaryllis*, but its true name is *Sternbergia lutea*.

Do not let it be imagined that this is a showy plant. Yet it well deserves culture.

Plant bulbs in October, November, or spring, 6 inches deep, in rockery clefts where soil is rich and damp cannot lie to rot them ; or cover the soil under Silver Birches, or other light-growing trees, with them ; or use them to help edge herbaceous borders. I like, too, to plant them in groups alternately with Mossy Saxifrages, for the 'moss' of the latter will keep the *Sternbergias* snug.

The Scarlet Twin Flower (*Bravoa Geminiiflora*) is another pretty half-hardy plant, for raised beds or rockeries. It has orange or vermilion blooms, in drooping clusters, during summer, is about 18 inches tall, needs no peat, and can be left in the ground under a cinder-covering each winter. Plant bulbs 4 inches deep and 6 inches apart, in October or November. Or place them 2 inches apart in pots of ordinary sandy compost, cover in a cold frame until growth comes,



NATURAL SHAPE BULB BEDS.

then keep in the greenhouse for blooming. Dry off as usual and repot annually.

It should be realized that *Ixias* will thrive in hot borders, or sunny glades in shrubberies, planted 4 inches deep, 4 inches apart, from September to December. They should be lifted, like *Ranunculuses*. Many of the lower-growing bulbous plants look most charming of all used to fill small beds of natural, otherwise flower or leaf, shapes.

Pink *Babianas*, for example, can occupy a Single Rose-shaped bed, scarlet *Begonias* may be the furnishing for one that resembles a Single *Geranium* bloom ; purple *Crocuses* may imitate a giant *Pansy*, and dwarf Double *Tulips* be used to represent a giant blossom of *Anemone Japonica*.

Such 'flower' beds, looked down on from the windows of a house, have a most quaint effect. A Shamrock bed, in gravel, will look all green, at one season, if given up to *Anemone coronaria*. An Ivy-leaf bed may contain *Hepaticas*.

CHAPTER XVII

BEGONIAS, FRENCH AND PERSIAN RANUNCULUSES, ORNITHOGALUMS, CALOCHORTI, COMMELINAS, ETC.

‘ Flowers are the brightest things which Earth
On her broad bosom loves to cherish.’

W. PATTERSON.

WE have just been thinking of how well the Begonia will fill a bed on a lawn ; we know, too, that Begonias are very much prized for mingling with other plants for bedding-out ; so brilliant, so long-blooming are they, so attractive are their leaves, that they may be said to combine all the ‘ points ’ that should distinguish a plant for summer and autumn adornment of the pleasure-grounds.

Yet, as I have suggested earlier, the finest Tuberous Begonias ought to be given glass-house culture, and merely Double or Single Bedding Begonias, in separate colours or mixture, be bought for outdoor purposes. They are quite simple to manage.

In Chapter XIV will be found instructions for starting Begonia tubers, also for raising Begonias from seed.

The tubers that have made growth are potted off singly in small pots, and the plants kept growing until May under glass, then stood in frames, uncovered whenever it is safe, until planting-out time in June. The custom of covering the soil of Begonia beds with coco-nut-fibre refuse is an excellent one, as it preserves the leaves and flowers from being mud-splashed. One year I made the covering of equal parts of the fibre and of fertilized Hop Manure, and found the nourishment agreed splendidly with the plants.

Dwarf Bedding Begonias, mentioned in the same chapter, are capital for edgings and portions of patterns. Of course the popular Begonia semperflorens calls for warm praise, but it does not rank as a bulbous plant, having fibrous roots.

Our ancestors went decidedly mad over Tulips, and moderately crazy over Ranunculus culture. Still, it should be admitted that beds or borders of the best French and Persian Ranunculuses, perfectly grown, are enough to rouse genuine enthusiasm. Dutch and Scotch Ranunculuses, too, are most beautiful flowers.

The famous old authority, Glenny, described the properties of a prize-deserving Ranunculus.

‘The flower should be of the form of two-thirds of a ball, 2 inches in diameter, the under part of it square or horizontal.

‘The outline of the bloom should therefore form a perfect circle.

‘The petals should be thick, smooth on the edges, and gently cupped ; they should lie close, so that very little but the edges should be seen, and that little only the inside surface.

‘The flower should be symmetrical to the centre, which should be close, so as to perfectly conceal the seed-vessel, even with the surface, and perfect so as to exhibit a complete finish to the surrounding petals.

‘The colour should be very dense, whatever be its hue ; if an edged flower, the edging should be well defined, and the marking even and uniform in every petal ; but in no case should the ground colour break through the edging, but spotted flowers with one spot on each petal are allowable.

‘The stem should be strong, perpendicular, and long enough to raise the flower clear 6 inches above the foliage, and no more.

‘Striped flowers are not perfect, nor are flowers speckled on the edges ; the colour of edged flowers, like those of edged picotees or tulips, ought not to exhibit a single break.’

The days have gone by in which the *Ranunculus* was a show flower, yet it is pleasant to recall them, and sensible to understand what are the greatest qualities of this blossom that we value to-day chiefly for its worth as a vase filler.

The half-hardy *Ranunculuses*, or Crow-foots, are best represented by the Persian, *R. Asiaticus* ; the

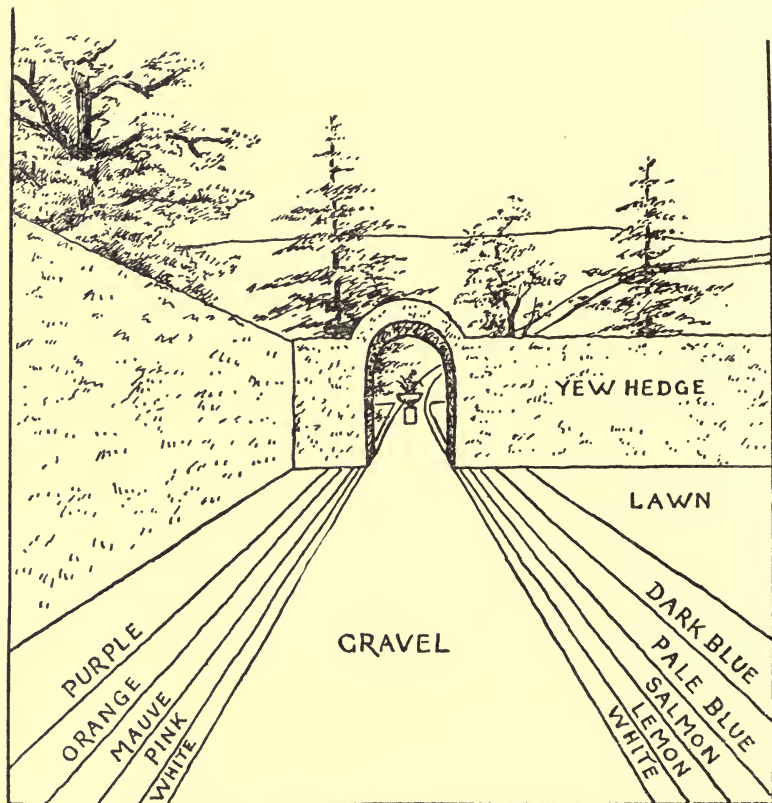
Scotch and French ought to be cultivated apart from them and from each other, for purposes of comparison. Turban Ranunculuses, which are the hardiest, have been dealt with in Chapter VIII, but may advisably be grown like these others if there is any danger of harsh winters being experienced.

Plant tubers, then, of the delicate Ranunculuses (or of the 'Turbans' in cold gardens) in rich sandy soil and sunshine, claw downwards, 2 inches deep, and 5 inches apart, in *February*. Continue at intervals of a few days until the end of April, if a succession of blossom-harvests is desired. Mulch with a two-inch layer of old cow-manure, letting it lie very lightly over the beds or borders so that it will not check the leaf growth at all. Another mulch may be given when the plants are well up ; or leaf-soil or Hop Manure may be used instead. Water freely after growth has begun. Ranunculuses will fail altogether if allowed to become dry. When flowers are forming the plants may be given a dose of liquid manure, made of half an ounce of guano steeped twelve hours in each gallon of rain-water. Other liquid manures can be applied also, if desired, but all should be discontinued when flowers are opening.

The hardy Ornithagalums have been described in Chapter X ; there are semi-tender kinds, which are useful plants for cool glass-houses and room windows, or for sinking in pots for summer bedding. *Ornithagalum aureum*, yellow dwarf, also *O. exscapum*, white, and *O. revolutum*, white, can be recommended,

but the instructions formerly offered apply to them, so need not be repeated.

Every garden should contain Calochorti, either in



A SHELTERED BULB GARDEN.

warm borders or rockeries, or in beds. They consist of three groups, but I consider two only fit for the amateur gardener's patronage; these are known as

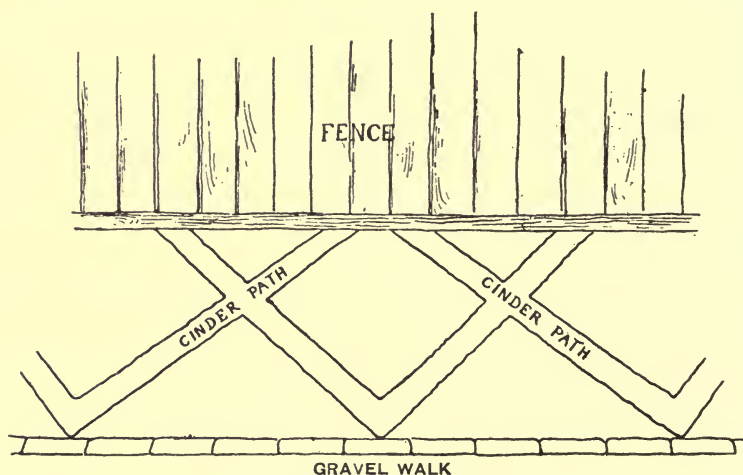
Mariposa, or Butterfly Tulips, and Star Tulips. The third section is of those called Globe Tulips, which are difficult to succeed with on account of their requiring semi-shade combined with dry soil. The one awkward fact about the others is that the plants ought to be sure of exceptional sun-baking, to ripen them after they have died down as to foliage ; one can secure this by putting glass over them, in one way or another, but the bed they inhabit is bound to look unsightly at that stage. So the wise method is to devote positions to them in borders, I think, where a frame 'light' can be supported over the decaying plants upon bricks at each corner, without the eye being much offended.

It is noteworthy that these Californian flowers are perfect for table decorations and bouquets.

Plant bulbs 3 inches deep in October and November, 4 inches apart, in sandy soil that is thoroughly well drained. Cover over with coco-nut-fibre refuse or chopped bracken fronds or heather. Remove the covering in early spring, give water occasionally, if no rains fall, when plants are growing ; give liquid weak manures twice in ten days or so, when buds are beginning. An uncommon feature of culture is that connoisseurs nip off some of the buds, because these are generally too numerous, and thus they make sure of fine blooms. When it is certain that the glass-covering after flowering has resulted in sufficient 'ripening,' the foliage having died down and crisped off,

or being ready to crumble at a touch, the plants should be lifted, the bulbs dried and stored like Hyacinths.

Calochorti in pots attract much admiration, especially upon the dining-table, or in the front windows of roadside houses. Ten bulbs may go into a five-inch pot in November, 2 inches deep. Cover with fine cinder-ashes in a cold frame, or in boxes inside a cold



RESERVE BEDS FOR BULBS.

glass-house, until January, then stand the pots in the greenhouse from which frost is excluded, ranging them near top glass to prevent plants from becoming 'drawn.' Water moderately after growth begins—never copiously—and dry off as soon as flowers are over; store, and replot the following November.

Of course these charming flowers can be grown entirely in cold frames, or in nursery beds.

By the by, some confusion often exists in the gardener's mind between nursery beds and reserve beds. The former are occupied by 'young stuff,' such as cuttings, seedlings, and bulblets growing on towards ultimate maturity, or to plants that are to blossom there for gathering from. The latter are used for 'reserve' plants, of any species or class, from which fresh specimens can be taken to fill up gaps in beds, window-boxes, borders, etc. There may well be reserve beds of plants sunk in pots, for the re-furnishing of glass-houses, the re-adornment of rooms, porches, etc.; and such beds may be made inside frames, if wished, or have frame lights ready to protect them.

CHARMING MARIPOSA, OR BUTTERFLY TULIPS.

- | | |
|--|---|
| CALOCHORTUS VENUSTUS, <i>in</i>
<i>mixture.</i> | CALOCHORTUS VENUSTUS EL
DORADO. <i>A wonderful blend</i> |
| CALOCHORTUS ^{<i>Luteus</i>} VENUSTUS CITRI-
NUS. <i>Lemon, spotted and</i>
<i>blotched maroon. 2 feet</i>
<i>tall.</i> | <i>of yellow, cream, rose, salmon,</i>
<i>and purple.</i> |
| CALOCHORTUS ^{<i>Luteus</i>} VENUSTUS OCU-
LATUS. <i>Rosy white, edged</i>
<i>yellow, blotched with rosy</i>
<i>purple.</i> | CALOCHORTUS CATALINÆ. <i>Lilac</i>
<i>and maroon.</i> |
| CALOCHORTUS VENUSTUS VE-
NUS. <i>Pale magenta-purple</i>
<i>outside, cream inside, with</i>
<i>zone and markings of mar-</i>
<i>oon.</i> | CALOCHORTUS SPLENDENS RU-
BER. <i>Rosy-lilac and crim-</i>
<i>son-purple.</i> |
| | CALOCHORTUS MACROCARPUS.
<i>Pale lavender and green.</i> |
| | CALOCHORTUS PLUMMERÆ.
<i>Lavender and gold.</i> |
| | CALOCHORTUS NUTTALLI. <i>White</i>
<i>and brown.</i> |

BEAUTIFUL STAR TULIPS.

CALOCHORTUS BENTHAMII. <i>Yellow and purple. 6 inches.</i>	CALOCHORTUS LILACINUS. <i>Lilac with nearly black blotches. 10 inches.</i>
CALOCHORTUS MAWEANUS MAJOR. <i>White and blue. 9 inches.</i>	

Lastly, mention shall be made in this chapter of the Azure Day Flower, *Commelina Cœlestis*, as it is extremely pretty and one of the few bulb- or tuber-forming plants that is both easily and rapidly grown from seed.

The directions given in Mrs. Loudon's famous old book, *The Ladies' Companion to the Flower Garden*, are precisely those by which I have successfully worked.

'*Commelina Cœlestis* has tuberous roots, but it may be raised from seed by sowing it in a hot-bed early in the season, and turning it out into the open border in common garden soil, tolerably rich, during the summer ; and in autumn its tuberous roots may be taken up and preserved during the winter, to be replanted in the open ground in spring ; or they may be protected by covering the ground with ashes or sand.'

The height is 18 inches, the foliage glossy.

Vallota purpurea, called the Scarborough Lily, gives grand scarlet flowers, and is excellent for cultivating in ordinary greenhouses or frames and sunny windows.

Place one bulb in each five-inch pot in October,

November, or March, only barely covered. Use ordinary compost, water very little at first, give plenty during the blossoming, scarcely any at all until the following November.

CHAPTER XVIII

AGAPANTHUSES, CAMASSIAS, CANNAS, ETC.

‘ For me, and those I love,
May a windless bower be built,
Far from passion, pain, and guilt,
In a dell ’mid lawny hills.’

P. B. SHELLEY.

PROBABLY the happiest way to grow half-hardy plants of all kinds, the bulbous among them, is in a dell garden, large or small. I know that my own gardening was easiest, and quite triumphant, when I had a rockered pit, the result of obtaining gravel for new paths, on a Hertfordshire hill-top. Sun-heat was concentrated on one inner portion of that pit ; shadow and shelter were combined upon the other. All the spring blossoms were earliest, all the autumn ones latest ; many a plant flowered long into winter, the real winter ones flourished grandly even when sharp frosts had spoilt their brethren on the level. Plants that needed rather arid soil rejoiced in the sides near the summit ; those that loved moisture revelled in the bottom of the banks, where the effect of combined

geniality of temperature and drained-down rainfalls was shown by the enormous size of such ordinary favourites as Pansies, Polyanthuses, Double Daisies, Woodland Primroses, as well as by Daffodils, Tulips, Bluebells and Anemone Fulgens, the Scarlet Star of February.

Against bold crags half-way up the sunny slopes rose blue and white Agapanthuses from late June to October. The plants were not lifted, but lined out, protected during the cold months by heaps of cinder-ashes above their roots—cinder-ashes hidden by the always sightly and beneficial Hop Manure—above which the evergreen leaves continued to wave majestically.

Very few are the gardens in which the Agapanthus, or African Blue Lily, can be found permanently dwelling; yet many are the gardens it would be quite willing to inhabit. It ranks as an herbaceous plant, but is included in Bulb Lists. Mrs. Loudon wrote of it thus:

‘Agapanthus—Hemerocallidaceæ—The Blue African Lily, *A. umbellatus*, is a noble plant, with a bulbous root, somewhat resembling that of a leek; and it retains its leaves all the winter. There is a variety with striped leaves. *A. albidus* has white flowers, but it does not differ from the common kind in any other respect. *A. maximus* has a very tall stem, and narrow leaves, and the flowers, which are of an extremely dark blue, with a white stripe, form rather a small head in

proportion to the great length of the stem. Both these last-named plants are, however, probably only varieties of *A. umbellatus*.'

There is also a double blue variety.

Whether the *Agapanthus* is cultivated in the ground, or in pots or tubs, it must be liberally watered while growing rapidly, and throughout the blossom period ; it is a glorious spectacle by rivers and lakes, but either must be pot-sunk in damp places, or be established in raised rockeries or banks that will become almost dry in winter months if covered by a sufficient cinder mulch, etc.

Another ancient author says of it :

' A striking plant, which is too much confined to the greenhouse, inasmuch as the lovely blue of its handsome head of flowers only attains its fulness in the open air. The *Agapanthus* is only half-hardy in England ; and though it may be permitted to remain throughout the winter in the open ground, under a covering of litter or leaves, it must always be at a risk. It is safer to keep the bulbs in pots (which must be large) in good, light, rich soil. At the beginning of June these pots may be sunk in a bed, or along a border, being liberally supplied with water in hot dry weather. Where there is a good stock of bulbs in hand, half may be ventured in the garden, and half retained in pots, to be removed into a cold frame for the winter. Flowering commences in July, and continues during the summer if the plants are indulged with plenty of water, of which

they are greedy at that time. Propagate by division of the bulb, planting the offset immediately. Seedlings (to be sown on peat-mould) will not come into their flowering state before the fourth year at soonest.'

Plant the *Agapanthus* in March, or pot it three bulbs in a giant pot, or tub, using a compost of two parts fresh turf loam, one part each of old cow-manure, leaf-mould, and coarse sand, preferably from a river-bed. Sprinkle the compost with a little soot, and place nuggets of charcoal on the drainage crocks. Water moderately, then freely, until flowers are over, then very little, and scarcely ever during winter. As the *Agapanthus* is almost robust it becomes sickly in too much heat, a winter temperature of 40° being sufficient. If this is apt to rise, the plants would do better put into cold frames that can be banked up outside with cinders and have their lights covered with mats when necessary. The greenhouse temperature for flowering them may be 55° . To avoid exposing them to undue heat, *Agapanthuses* are often stood just outside conservatory doors. The rich blue colour is never seen except on hardily grown specimens.

Camassias are also rather tall, handsome, blue or ivory-white, blooming plants, half-hardy in most localities, quite hardy in some. They are the *Quamashes* of North America, whose roots serve some tribes as food; hence the second part of their title—*Camassia esculenta*. Clever florists have been at work upon this floral species, with the result that there is a

large-flowering pale blue variety, Blue Star, which shares with the handsome violet Royal Purple the merit of being only 18 inches to 2 feet tall, whereas the type plant, and Hybrids, generally reach a stature double that, and appear over high for their value.

Silver Queen is particularly attractive by reason of a silvery sheen on its blue spikes, which renders it one of the flowers I would always cultivate in a 'Moonlight,' or 'After-Nightfall' district of the garden.

Mauve Queen is exceedingly handsome, showing clearly the result of efforts to increase the importance of Camassias: the star-shaped blossoms are true mauve, and massed on stalwart stems. Both these Queens are three-foot varieties.

Plant bulbs 4 inches deep and 9 inches apart, in any sunny, good border, in October. Mulch over well with cinder-ash and coco-nut-fibre refuse, then draw this aside in February and replace it by old cow-manure. Planted thus Camassias can be left undisturbed for four or five years. It is prudent to lay a little sharp sand under each bulb. They can be grown in large pots, if given cool treatment, and not introduced to any artificial heat until flowers are opening.

No doubt the inclusion of Cannas among half-hardy bulbous plants will be criticized, but I prefer to forget that they are Stove Herbaceous subjects, and remember, instead, how generously they will adorn the summer garden, how first-class a filling they provide for outdoor urns and tubs, how willing they are to submit

to mere frame-and-outdoor culture at the hands of admirers who do not own greenhouses, hot or cold. As a matter of fact, in parts of England they may be seen living their whole lives in the open, covered during winter by dry material.

Buy Canna roots in February, if there is heat, otherwise in March, pot one root in each five-inch pot, and transfer to larger ones later, or group several in a huge pot, tub, split barrel, or urn. The temperature may be as high as 75° , in which case growth will soon appear, and care must be taken that the compost of loam, old manure, leaf-mould, and sand remains just damp; or it may be as low as 45° , in which case germination will be delayed, therefore 'damping off' must be guarded against. The cold-frame culture should really begin with the aid of a mild hot-bed. When going ahead rapidly Cannas require plenty of water and full sunshine, and may be given bi-weekly doses of any liquid manures as soon as they are handsome foliage plants.

There is no mystery in their culture: they may be planted out in June, or planted at once in February or March, in borders inside well-heated glasshouses, or plunged later in pots in beds. I fed them liberally with Hop Manure one year, and the colours seemed extra gorgeous.

When lifted from the ground, before frosts can threaten, they must be put closely together in boxes of very sandy, pure, preferably baked loam, kept almost

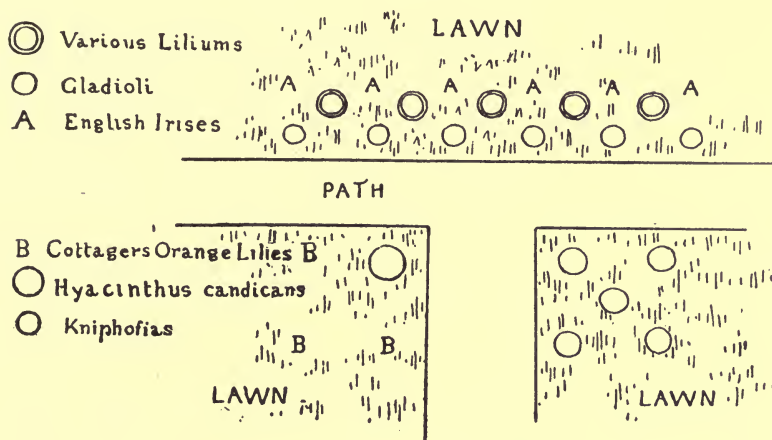
dry, in frames, or frost-proof light sheds or rooms where air can be freely supplied, until the next planting or potting season. Culture from seed is simple. The plant is called Indian Shot because the seeds are hard as shot, so they must be soaked, pared, or grated down till the outer husk is either removed or softened. Seed will germinate eventually in a temperature of 60°, but a very high one is needed to hurry matters, and plunging the pans in a hot-bed becomes necessary for this unless they can inhabit a stove. The compost has to be kept moist, therefore glass-sheets over the pans, and light moss above these, if in sunshine, are required.

But the grower of Cannas from seed must not rely on obtaining many, if any, specimens equal to the best named varieties.

GLORIOUS CANNAS.

CANNA CHILDSII. <i>Yellow, spotted with crimson.</i>	CANNA J. D. EISELE. <i>Vermilion. 4 feet.</i>
CANNA F. NEUVESSEL. <i>Carmine, with dark foliage.</i>	CANNA ALSACE. <i>Pale primrose.</i>
CANNA AURORA. <i>Salmon-orange.</i>	CANNA PHOEBE. <i>Vermilion, flushed carmine.</i>
CANNA AUSTRIA. <i>Yellow, with brown spots.</i>	CANNA BRITANNIA. <i>Orange and yellow, with dark leaves and purple stems.</i>
CANNA ALPHONSE BOUVIER. <i>Crimson. Grows to 6 feet.</i>	CANNA ARDITE. <i>Scarlet, blotched with gold. Dwarf.</i>
CANNA SICILIA. <i>Gold, with salmon spots.</i>	CANNA CRIMSON BEDDER. <i>Early and free-blooming.</i>
CANNA QUEEN CHARLOTTE. <i>Scarlet, with gilt edge.</i>	

Agapanthuses, Camassias, Cannas, Lilioms, Day-lilies, Eremuri, Kniphofias, are among the tall bulbous



BIG BULBOUS PLANTS IN LAWNS.

plants fit to make handsome effects when dotted along the edges of lawns.

CHAPTER XIX

DAHLIAS, AMARYLLIS, MARVELS OF PERU, ETC.

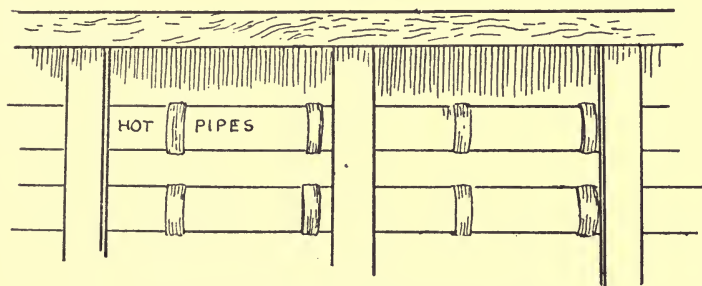
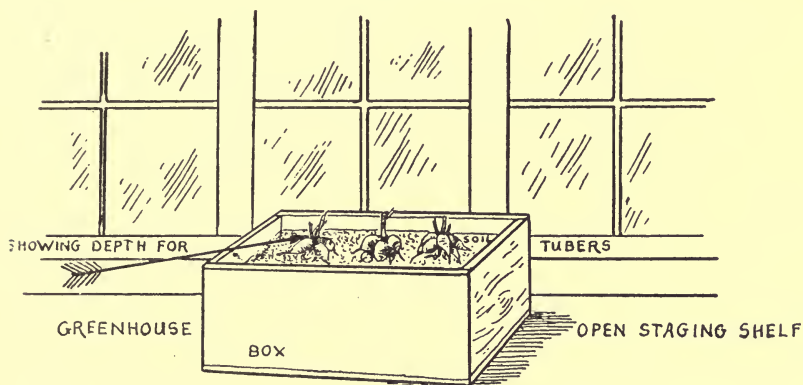
‘See where the Dahlia’s velvet tempts the bee.’

ANON.

THE fascinating subject of Dahlias, and their masterly culture, should fill a book rather than a portion of a chapter, but, fortunately, it is possible to reduce directions for their mere cultivation, by different methods, to the dimensions of a recipe such as this.

Plant old tubers, either whole or divided, in rich, well-drained, sunny ground, in April, 3 or 4 inches below the surface. Or place tubers in a layer of coconut-fibre refuse on a hot-bed, or in boxes over hot pipes or boiler, in March, and pot them singly in small pots as soon as growth begins, standing them in a temperature of 55°. Or defer starting the tubers till May, then plant out when they are growing. Or buy young plants in pots for planting out in June. Or leave roots out always, in warm gardens, heaping

cinders above them each October, not lifting and dividing them until flowers are poor. Water in times of growth. Feed with liquid manures from the bud-



HOW TO START OLD DAHLIA TUBERS.

forming season until September. Except for plants left out, lift, slightly dry off, and store tubers in cold places out of damp and frost, laying dry sacking above them, or putting them in quite dry chaff or fibre, just below the surface. Arrange earwig-traps around

Dahlias, either hollow canes, or inverted flower-pots on stakes, lined with rancid fat and containing hay that can be taken out and shaken over a pail of strong boiling brine, or a cold mixture of paraffin and water. Thin shoots to three on each plant in July, or to five in the case of giant kinds, not dwarfs, nor Pompons. To obtain prize flowers disbudding is usually required.

All the tall Dahlias ought to be 6 feet apart, and, away from any but quite dwarf annuals or perennials, but of course they must be placed differently to this when used merely for garden adornment. They look magnificent upon banks, which can enable them to tower 12 feet or more above the level, or may be used as clothing for the slopes of dells or moats. They are willing to blossom in openings of woodlands, where their white, cream, blush, lilac, or brighter or dark flower masses have most original effect, yet they can be relied on to form centre-pieces to lawn, or terrace beds. I have employed Single and Cactus Dahlias to make summer hedges in front gardens that were insufficiently screened, and the enormous Decorative Dahlias, on three-foot banks, set triangle shape with but a narrow gap for entrance, to make a shelter and shade for a log bench, where there was no summer-house and the sunshine was annually too ubiquitous. If the trim little Pompons are admired (and why should they fail to be?), it is very easy to keep flower-beds brilliant until the approach of winter. When the expensive named varieties are grown, however, it is

foolish to let them go on blossoming as long as they will, since the valuable tubers ought not to be weakened. Gardeners avoid this by slipping a fork beneath the plants, in early October, and lifting them just enough to disturb their roots, which causes growth to fade; and the tubers are taken up seven to ten days later, to dry and store. It is best to sprinkle old roots with tepid water, and keep them in a warm temperature, before dividing them. They may then be seen to be 'starting' at every 'eye'; and so it is simple for the inexperienced cultivator to separate them into as many pieces as there are eyes, or groups of pieces, as he chooses, before planting out, or potting them, in spring. Every bit of tuber cut with an eye will grow.

Dahlia tubers are not spoilt, however, when frost seems to have suddenly cut down the growing plants. If these are lifted, the stems all cut away, and the root-clumps sun dried under cover, no destruction of any consequence will have occurred. But not the slightest frost must touch the roots or tubers while they are stored. As for what types of Dahlias to grow, the garden-owner's taste must rule. Some enthusiasts love all, others object to the Show or Double, and the Pompons, for being like 'flowers carved out of turnips'; some regard the Pæony-flowered and Decoratives as ungainly, ill-shaped, coarse monstrosities, and consider the Cactus-flowered family perfect in shape. While one person will rave over the purity of the Single Dahlias' form, another will

wonder why any but the pointed-petal Single Cactuses are cultivated.

The following lists suggest some excellent sorts in various classes, but not the most costly and modern.

SHOW DOUBLE DAHLIAS.

GLOIRE DE LYON. <i>Pure white.</i>	MRS. GLADSTONE. <i>Pale pink.</i>
IMPERIAL. <i>Deep purple.</i>	MRS. PETER MCKENZIE. <i>Gold,</i>
ESMOND. <i>Yellow.</i>	<i>edged with crimson.</i>
COLONIST. <i>Fawn and chocolate.</i>	SOUTHERN QUEEN. <i>Lilac and</i>
GOLDFINDER. <i>Yellow, tipped</i>	<i>rose.</i>
<i>with red.</i>	WILLIAM NEATE. <i>Terra-cotta-</i>
MAJESTIC. <i>White, edged with</i>	<i>fawn.</i>
<i>purple.</i>	DIADEM. <i>Deep crimson.</i>
MARJORIE. <i>Yellow and buff,</i>	JOHN WYATT. <i>Crimson-scarlet.</i>
<i>tipped red.</i>	SPITFIRE. <i>Vermilion.</i>

CACTUS DAHLIAS.

DOROTHY. <i>Pink, white-tipped.</i>	BALLET GIRL. <i>Red, white-tipped.</i>
FLAME. <i>Orange-vermilion.</i>	ADMIRAL TOGO. <i>Vermilion.</i>
HAROLD PEERMAN. <i>Deep yellow.</i>	MRS. CARTER PAGE. <i>Velvety</i>
MAUVE QUEEN. <i>Bright mauve.</i>	<i>maroon, with yellow base.</i>
C. E. WILKINS. <i>Salmon and</i>	KING OF SIAM. <i>Deep purple</i>
<i>yellow.</i>	<i>maroon.</i>
MRS. W. H. RABY. <i>Cream.</i>	CORONATION. <i>Scarlet.</i>
C. H. CURTIS. <i>Scarlet-crimson.</i>	BERNARD SHAW. <i>Red-salmon.</i>
CARADOC. <i>Pale yellow.</i>	BRIDE. <i>Pink and primrose.</i>
JULIET. <i>Rose pink.</i>	MRS. H. SHOESMITH. <i>White.</i>

DECORATIVE DAHLIAS.

PRIMROSE QUEEN. <i>Primrose.</i>	CAPTAIN HENDERSON. <i>Crim-</i>
COUNTESS OF PEMBROKE. <i>Pale</i>	<i>son scarlet.</i>
<i>lilac.</i>	CONSTANCE. <i>White.</i>
KUROKI. <i>Salmon.</i>	CRAWLEY STAR. <i>Rosy-salmon.</i>
	YELLOWSTONE. <i>Yellow.</i>

PÆONY-FLOWERED DAHLIAS.

- | | |
|---|--|
| ISADORA DUNCAN. <i>Apricot-salmon.</i> | ANDREW CARNEGIE. <i>Salmon and bronze.</i> |
| GEISHA. <i>Yellow and scarlet.</i> | GARIBALDI. <i>Deep scarlet.</i> |
| QUEEN WILHELMINA. <i>White.</i> | GLORY OF BAARN. <i>Pink.</i> |
| GLORY OF GROENEKEN. <i>Orange-yellow.</i> | PHYLLIS KELWAY. <i>Deep crimson, tipped green.</i> |

COLLARETTE DAHLIAS.

- | | |
|--|--|
| DIADEM. <i>Rose, with yellow tips, and white collar.</i> | MADAME LEPAGE VIGER. <i>Scarlet, with yellow collar.</i> |
| OBERON. <i>Mauve-pink, with white collar.</i> | JOSEPH GOUGON. <i>Tomato-orange, with yellow collar.</i> |
| PRESIDENT VIGER. <i>Crimson, with white collar.</i> | COUNT CHERMERETIFF. <i>Vermilion, with gold ring.</i> |

SINGLE DAHLIAS.

- | | |
|---|---|
| WILLIAM KELWAY. <i>Maroon.</i> | THE CARDINAL. <i>Crimson-scarlet, paling to rosy edge.</i> |
| ALBA PERFECTA. <i>White.</i> | TWENTIETH CENTURY. <i>Rose-carmine, with white tips and ring.</i> |
| AGNES KELWAY. <i>Yellow, flushed rose.</i> | PUGILIST. <i>Crimson-violet.</i> |
| CROMER. <i>Wine colour, with gold ring.</i> | GOOD FORM. <i>Blush-pink.</i> |
| CONON. <i>Crimson-maroon.</i> | HORIZON. <i>Apricot-gold.</i> |
| | CAPELLA. <i>Rosy mauve.</i> |

SINGLE CACTUS DAHLIAS.

- | | |
|--|---------------------------------------|
| NOVAR. <i>Magenta-purple and crimson.</i> | BEAUTY. <i>Orange-vermilion.</i> |
| ALICE LEE. <i>Pink and white.</i> | MOIDORE. <i>Orange-bronze.</i> |
| ARGYLE. <i>Deep crimson.</i> | PHANTASY. <i>Yellow shaded pink.</i> |
| CYGNET. <i>White.</i> | DÉBUTANTE. <i>Deep and pale rose.</i> |
| SUN SPOT. <i>Pale yellow.</i> | DELICIOUS. <i>Cream and pink.</i> |
| QUEEN MARY. <i>White, with pale yellow disk.</i> | GOLD RING. <i>Lilac and yellow.</i> |

POMPON DAHLIAS.

GOLDFINCH.	<i>Yellow, slightly edged mauve.</i>	ORIFLAMME.	<i>Orange-gold.</i>
WHITE QUEEN.	<i>White.</i>	FLOSSIE.	<i>Rose pink.</i>
SALMONED.	<i>Salmon and yellow, tipped red.</i>	LILACEA.	<i>Lilac-pink.</i>
LEMON PET.	<i>Primrose.</i>	POMPONIA.	<i>Dark gold, edged cherry.</i>
		THE DUKE.	<i>Velvet crimson.</i>

TOM THUMB DAHLIAS, 1 TO 1½ FEET TALL.

HOP-O'-MY-THUMB.	<i>Scarlet-crimson.</i>	ROBIN.	<i>Deep rose.</i>
GNOME.	<i>Blush-white.</i>	MIGNON.	<i>Pink, with white ring.</i>
PRETTY DEAR.	<i>Ivory, edged with pink.</i>	GIRLHOOD.	<i>White.</i>
BEATRICE.	<i>Pale pink.</i>	AYESHA.	<i>Yellow, flushed with pink.</i>
SWAGGER.	<i>Scarlet.</i>	APRICOT.	<i>Apricot-gold.</i>

Dahlias, of all the classes, may be raised from seed, sown in sandy compost in pans or pots, in a temperature of 65°, or more, in March. Seedlings should be potted off separately into thumb-pots and kept near the glass, being shifted into larger pots as their roots fill those they occupy. They can be flowered in pots if desired.

An autumn flower that may well be associated with Dahlias, in beds and groups, is the Belladonna Lily, or Amaryllis Belladonna. It should be placed in a warm spot, but an open sunny one serves as well as the south-wall border it is generally introduced into, if cinders are heaped over the site during winter. For this bulb should live out. Plant it 6 inches deep in late August, or early September, then mulch with

leaf-mould. The many flowers are white, flushed with rose. Or the variety *Purpurea maxima* offers deep rose blooms, with a sweet scent.

The Guernsey Lily, *Nerine sarniensis*, scarlet, may be similarly used, but lifted, the bulb dried, and replanted the following August.

Mirabilis Jalapa, the Belle de Nuit of France, or the Marvel of Peru, had a long period of immense popularity, then sank into ill-deserved neglect. The plants come of symmetrical, bushy form (of itself a merit), their leaves are glossy and always fresh-looking, the tubular flowers rise well out of them on all sides as well as at the summit of the bushes, are red, rose, yellow, white, crimson, some curiously mottled, or striped, open at sunset, and perfume the air for many yards. Those blossoms will have passed by the morrow, but there will be many more of the long buds ready to unfurl by another night.

Marvels of Peru may be raised in quantity by seed sown as for Dahlias; they can be lifted annually, if it is desirable, but had better be planted, in June, where they can reside for years in such localities as are fit for Myrtles and Laurustinus. Hot borders by bay windows of villas, in country or seaside towns, are very suitable for them, and their shrub-like appearance will surely be appreciated. I have admired the effect of a couple of bushes of Marvel of Peru flanking house steps. They grow into quite large specimens. Or they are handsome pot subjects for rooms and cool

conservatories. Tubers can be bought for starting into growth in April or May.

Mention must be made of *Funkias*, known formerly as Japanese Day-lilies, which are also half-hardy, though able to live out in warm dry borders. It is preferable to cultivate them in tubs or pots, however, because they are willing to remain attractive very late in the year unless checked by frost. Mostly spoken of now as Plantain Lilies, they rank as herbaceous plants with ornamental foliage, yet their blossom spikes of white or lilac, are charmingly elegant, and also fragrant, and can be increased by division of their crowns.

Plant in September, October, or March. Mulch over them with cinders and leaf-mould, and in April with old cow-manure.

Another idea is to establish them in well-drained parts of waterside gardens and half in shade. They will flourish among hardy Bamboos, for example. *Funkia Sieboldiana* major, violet blue, with peculiar greyish-blue foliage, is a great contrast to *Funkia subcordata grandiflora*, a white-bloomer with pea-green leaves. *Funkia Fortunei robusta* is silvery-lilac, and there is a variety with silver variegated and undulating foliage that is of great service in the greenhouse.

CHAPTER XX

ROMULEAS, BRODIÆAS, GLADIOLI, OXALISES, ALSTRÆMERIAS, WATSONIAS, ETC.

‘ Many blossoms have been born,
And fill the garden, row on row.’

CONSTANCE GOODWIN.

IN the preceding chapter we thought last about broad-leaved plants, the tropic-suggesting Funkias. We begin this chapter by considering the dainty charm of Romuleas, whose foliage is like grass or miniature reeds, whose height is only from 6 to 9 inches.

Still, in gardens there are places for fair flowers of all dimensions, shapes, and colours.

There are yellow and white Romuleas, but, alas ! it is doubtful if any but the lavender and the rose can now be obtained. These are lovely little things, however, for edges of sunny, sandy, well-drained borders, beds, or nooks in rockeries. *Romulea speciosa* is almost magenta, and *Romulea Clusii* has brilliant orange in the centre of its lilac-blue flowers. Plant bulbs in September, 3 inches deep at least, and

2 inches apart. Protect them by a layer of dry coco-nut-fibre, and give them a mulch of old manure instead the following March. Or grow in pots, seven bulbs in each six-inch one, in October, plunge in fibre in a cool frame or greenhouse until growth is visible, when bring to the light, but not at once into sunshine, and begin to water very cautiously. Withhold water, and dry off the plants after they have bloomed, but do not disturb the roots. Just start into growth again next January, by moistening the compost, and plunging the pots as before.

Brody's Lily, the *Brodiaea*, is much better known, and has a number of popular names, such as Vegetable Fire-Cracker, Californian Hyacinth, and Crimson Satin Flower. It is also more than double the height of the *Romulea*. There are blue and purple kinds, too, all moderately hardy, wanting good sandy soil and sunshine, and blossoming from midsummer to Michaelmas. Plant in September, 3 or more inches deep, 6 inches apart, and lift and replant as usual.

I always pity the garden that cannot boast about its *Gladioli*. Probably more amateurs would grow them if not bewildered by there being early and late species, the culture for which is bound to vary slightly.

Plant early-flowering *Gladioli* in November, unless you can obtain them in October. Put the bulbs

5 inches deep and cover over the borders with any dry material to protect them. The soil should be deeply dug, made rich with decayed manure a foot beneath the surface, but of sandy loam of nice friable nature above this nourishment. Place a little sprinkling of sharp sand under every bulb. Mulch with old manure in early May; horse-manure answers quite well for the *Gladiolus*. See that plants do not suffer from drought.

Pot early *Gladioli* from October to December, for succession, putting five bulbs in a six-inch pot. Sink pots in cinder-ashes in a cold frame, or in a cinder-bed made up against a wall facing south. In either case lay some chopped bracken-fern, heather, or straw, over the pots, and, if a frame is used, let there be cinders banked up round it, to keep frost from entering by the sides.

Watch for the first signs of growth, and draw the covering material gently away from it. When foliage is well advanced, take the pots into the sunny greenhouse and begin to give water. The temperature may be from 45° to 65°, but no more. *Gladioli* in pots will bloom without heat, in a room window even, and those out of doors should make a fine display during June. Or bulbs of early kinds can be kept in tins in a cold dry cellar till March or May and potted then for autumn use under glass.

SOME BEAUTIFUL EARLY AND SUMMER-FLOWERING GLADIOLI.

- | | |
|---|---|
| GLADIOLUS CARDINALIS. <i>Scarlet.</i> | GLADIOLUS LORD GREY. <i>Pink,</i> |
| GLADIOLUS CARDINALIS ELE-
GANS. <i>Scarlet, flaked with white.</i> | <i>flaked with magenta.</i> |
| GLADIOLUS DELICATISSIMA SU-
PERBA. <i>White, flaked with</i> | GLADIOLUS MRS. G.W. WILLOCK.
<i>Blush white, with cerise mark-</i> |
| <i>crimson.</i> | <i>ings.</i> |
| GLADIOLUS THE BRIDE. <i>Pure</i> | GLADIOLUS PEACH BLOSSOM.
<i>Pale rose self.</i> |
| <i>white.</i> | GLADIOLUS ROSEA MACULATA.
<i>Orange-vermilion, flaked with</i> |
| GLADIOLUS TRISTIS. <i>Cream-</i> | <i>white.</i> |
| <i>white. Scented.</i> | GLADIOLUS FLORIBUNDUS.
<i>White, and pale magenta.</i> |
| GLADIOLUS VINULUS. <i>Ivory,</i> | GLADIOLUS COLVILLEI. <i>Magenta-</i> |
| <i>with maroon blotch.</i> | <i>purple, striped with white.</i> |
| GLADIOLUS ROSY GEM. <i>Cerise-</i> | GLADIOLUS BLANDUS. <i>Blush.</i> |
| <i>rose.</i> | GLADIOLUS GENERAL SCOTT.
<i>Shell-pink, blotched with</i> |
| GLADIOLUS FIRE KING. <i>Scarlet,</i> | <i>cream, and edged with scarlet.</i> |
| <i>flaked with pale and deep rose.</i> | HOODED GLADIOLUS. <i>Primrose</i> |
| GLADIOLUS CRIMSON QUEEN.
<i>Bright crimson, flaked with</i> | <i>and coral.</i> |
| <i>white.</i> | |
| GLADIOLUS BUTTERFLY. <i>Sal-</i> | |
| <i>mon, flaked with white.</i> | |

As the early and summer-flowering Gladioli, if combined, give colour and grace from May to July, and the autumn-flowering species are splendid from July to October, or even November, it is obvious what importance the Corn Flag is to both amateur and professional gardeners.

Plant the autumn Gladioli in March, April, or May 3 or 4 inches deep, and as much as a foot apart, in rich, sunny, well-drained beds or borders, placing half a handful of coarse sand under each bulb. Do not

omit to put sticks to the plants when they are quite young, or the wind may lay them low. Give liquid manures liberally when flowers are forming. Lift the corms in October or November, and store in frames, rooms, or sheds.

Pot these large Gladioli in March and April for succession, 1 inch deep, one in each six-inch pot, or five in a ten-inch for a handsome group. Keep the pots in a cool place, and prevent the compost from drying up. When plants are growing put them into the greenhouse of moderate temperature, and feed generously as buds appear.

A SELECTION AMONG LATE SUMMER AND AUTUMN
GLADIOLI.

GLADIOLUS PRINCEPS.	Scar-	GLADIOLUS GLORY.	<i>Pink, with violet spot.</i>
<i>let.</i>			
GLADIOLUS BRENCHLEYENSIS.		GLADIOLUS LE PACTOLE.	<i>Yellow, with dark spot.</i>
<i>Scarlet.</i>			
GLADIOLUS BARON JOSEPH		GLADIOLUS SALVADOR.	<i>Magenta and yellow, with blue spot.</i>
HALOT.	<i>Indigo-blue.</i>		
GLADIOLUS HOLLANDIA.	<i>Rose and orange.</i>	GLADIOLUS SAUNDERSII.	<i>Scarlet, with maroon spot.</i>
GLADIOLUS AMERICA.	<i>Rose.</i>	GLADIOLUS CHILDSII RUFILLUS.	<i>Scarlet, speckled with white.</i>
GLADIOLUS LILACINA.	<i>Lilac and yellow, with violet spot.</i>	GLADIOLUS CHILDSII CYLINDUS.	<i>Blush, speckled with yellow.</i>
GLADIOLUS HORA NOVISSIMA.	<i>Pink, red and yellow.</i>	GLADIOLUS C. EULER.	<i>Orange-rose.</i>
GLADIOLUS PARAGON.	<i>White, with blue spot.</i>	GLADIOLUS C. FLAMINUS.	<i>Rose, with white spot.</i>
GLADIOLUS BUTTERFLY.	<i>Yellow, spotted carmine.</i>	GLADIOLUS C. MAHOGANY (or ANGELINA).	<i>Brown terra-cotta, with yellow lines.</i>
GLADIOLUS CRIMSON KING.	<i>Crimson-maroon.</i>		

- GLADIOLUS C. TENNYSON. *Scarlet.*
 GLADIOLUS C. SIR THOMAS DEWAR. *Red-maroon and yellow.*
 GLADIOLUS C. MADAME CALVÉ. *Salmon, with white, and vermillion spot.*
 GLADIOLUS C. LADY CONSTANCE GORE. *White, flaked purple and striped with violet.*
 GLADIOLUS OCHROLEUCA. *Pale yellow, passing to white.*
 GLADIOLUS PHILON. *White, with yellow centre.*
 GLADIOLUS RICHARD MILNER. *Yellow and orange.*
 GLADIOLUS MRS. OPPENHEIM. *White, tinted carmine.*
 GLADIOLUS ENGLISH WONDER. *Rose, with violet stripe.*
 GLADIOLUS CESIDAS. *Purple.*
 GLADIOLUS DUKE OF DEVONSHIRE. *Scarlet, with white throat.*
 GLADIOLUS LORD ROTHSCHILD. *Scarlet-crimson, shaded purple.*
 GLADIOLUS MRS. LAXTON. *Rosy-red, with white centre.*
 GLADIOLUS MARY ANDERSON. *Mauve, with white lines.*
 GLADIOLUS LOLLIANUS. *Rose, with white centre.*
 GLADIOLUS MARGUERITE TROIL. *Mauve, with white and lemon.*
 GLADIOLUS PERSIMMON. *Blue, with white lines.*
 GLADIOLUS PICCIOLA. *Scarlet, with yellow centre.*
 GLADIOLUS THEODATA. *Brick red, with crimson stripe.*
 GLADIOLUS ZOPYRUS. *Purple-maroon.*

Wood Sorrels are pretty plants for giving beds, or borders, the light carpeting that is beneficial to Gladioli, as to most bulbous plants. These little Oxalises, with their shamrock foliage of green or brown, can be lifted with the Corn Flags and planted at the same time. They increase rapidly, so should be propagated by their offsets, treating these as fresh bulbs.

Oxalises floribunda and purpurata have rose-coloured flowers, the former possessing a white variety, while *O. brasiliensis* is magenta, and *lasianдра* rosy crimson. Then there is the Bermuda Buttercup, *Oxalis cernua Bermudiana*, of vivid gold.

Owing to their luxuriant spreading growth they are all valuable greenhouse plants, serving to hide pots if used in groups, or to drape the edges of shelves and stagings. They can be kept growing under glass, or be dried off, as preferred, and by treating them quite unceremoniously, potting them at all the seasons, or letting them go dry at odd times with a view to having them vigorous later, it is possible never to be without a supply of creditable specimens. In hanging baskets I have found them of remarkable value during winter, in a temperature of from 45° to 60° ; while they will consent to make a show in earliest spring in a south-facing window.

Plant bulbs 2 inches deep out of doors, 1 inch deep in pots, and 6 inches or 1 inch apart in ordinary soil or compost.

Alstroemerias, or Peruvian Lilies, may be had in bloom from late May to the beginning of October. They are 2 or 3 feet tall, should be planted in late October in a sunny border made up with peat and leaf-mould, fresh turf loam, and roadside sand. Yet they can do without peat, and I have seen them flourishing in woodlands in semi-shade. The half-hardy kinds, like many species of plant, are rapidly becoming classed as hardy, and have actually acquired stamina since their introduction. The following may live out of doors, mulched over winter after winter, or can be potted, singly or in threes or fives, in big pots or tubs for greenhouse adornment. Plant 6 inches deep; pot like *Liliums*.

THE BEST ALSTRÆMERIAS.

ALSTRÆMERIAS AUREA.	Orange,	with green and bright spotted carmine.	
ALSTRÆMERIAS LUTEA.	Pale yellow, spotted carmine.	ALSTRÆMERIAS PELEGRINA.	Pale rose.
ALSTRÆMERIAS REVOLUTA.	Orange-red.	ALSTRÆMERIAS PELEGRINA ALBA.	White.
ALSTRÆMERIAS PSITTACINA.	Known as the Parrot Flower.	ALSTRÆMERIAS CHILENSIS HYBRIDS.	Rose, gold, lemon, blush with crimson markings.
	A crimson flower, streaked		

Long sticks are needed for the Peruvian Lilies, or they may be held up by strings, passed from plant to plant of a row, and fastened to stakes at yard distances.

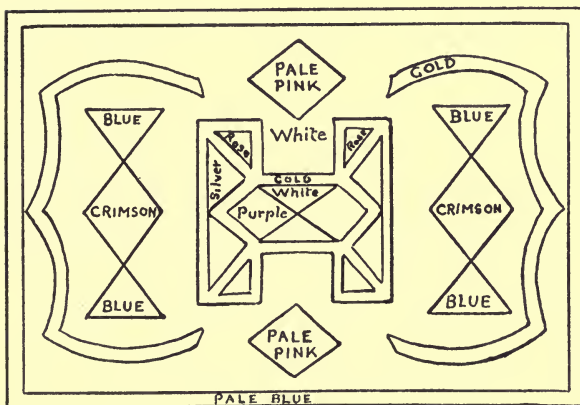
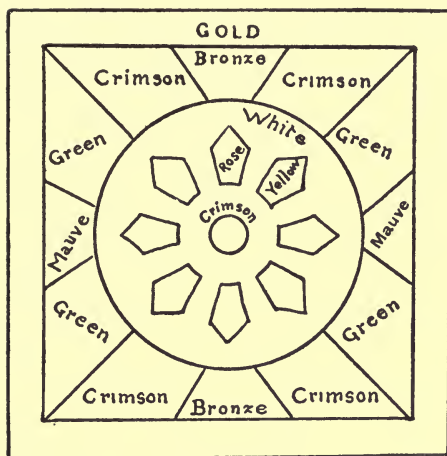
An old author mentions how a plant of *Alstroemeria aurea*, from one bulb set in front of a greenhouse, became 4 feet tall, and threw up fifty flower stems by the end of the second year !

Watsonias, or Bugle Lilies, may be admirably associated with *Gladioli*, requiring similar culture whether out in the garden or in greenhouse pots.

Watsonia Ardernei, the giant of the tribe, sends up delicate-looking 4-foot spikes of snow-white flowers, and other spikes of lesser stature will follow when the first has been gathered from the base. *Watsonia coccinea* is a dwarf summer species, of true vermilion.

Watsonia Neriana has tawny-rose blossom spikes, while those of the tall *Watsonia Augustifolia* are pale pink.

It should be remembered that *Gladioli* and *Alstroemerias* are striking centre or 'dot' plants, in symmetrically designed bulb beds.



CARPET BEDDING DESIGNS, FOR BULBOUS AND FOLIAGE PLANTS.

We have now, I think, looked thoroughly through the opportunities of the gardener who wishes to cultivate bulbous plants in the open or under glass ; for, though some varieties have been omitted, no doubt, some species referred to only in passing on, if the suggestions that are in this book are followed, even in part, the subject of Bulb Gardening will be excellently understood.

To increase one's stock of plants is but recreation, after one has learnt how to manage scores of others.

Bulbs—the chrysalides from which seeds pass to plant-life—are poetic in themselves and in their results.

It is, believe me, no small good to persuade an adult, or train up a child, to rejoice in blossoms.

I like to recall the questions asked years ago by 'Old Humphrey,' before I lay down my pen.

'Have you ever sat on a shady bank gazing on the earliest Primrose of the year with admiring wonder? Or bent in a retired nook with intensity of interest over the blue minute flower of the Forget-me-not? If you have not done these things you know not the pleasure, the joy, the delight, that may be excited by a flower.'

From a *Lilium giganteum* to a *Galanthus nivalis*, all are precious.

Which shall we cultivate then? Surely all?—If possible.

THE END

INDEX

A

Achimenes, 121, 127
 Aconite, 18, 63, 64
 Agapanthus, 156, 190, 197
 Alliums, 73, 107, 108, 156
 Almond trees, 51, 68
 Alstrœmerias, 156, 213
 Alyssum, 72
 Amaryllis, 15, 28
 Amaryllis, Greenhouse (Hippeastrums), 121-123, 129
 Anemones, 18, 60, 89-99, 179
 Anemone fulgens, 63, 156, 191
 Anomatheca, 137
 Arabis, 72
 Aralia, 157
 Arums (Callas), 157, 160-162
 Aubrietias, 46
 Azaleas, 83

B

Babianas, 171, 173, 179
 Balconies, 35, 159
 Bamboos, 206
 Banks, 43, 47, 60, 68, 93, 110, 200
 Baskets, 30, 104, 109, 127, 132, 154, 164
 Beds, Basket, 30

Beds, Box, 38
 Beds, Frame, 187
 Beds, Nursery, 30, 71, 187
 Beds, Raised, 85
 Beds, Reserve, 186
 Beds, Sunk, 27
 Beds, Tulip, 33, 38, 41, 42, 60
 Beds, Lawn, 60, 68, 83, 98, 174, 178, 180
 Beds, 19, 28, 41, 90, 96, 98, 100, 149, 197, 214, 215
 Begonias, 101, 149-154, 156, 179, 180, 181
 Bleeding Heart Flowers (Dicentrastrs), 107, 116
 Blood-root (Hæmanthus), 146
 Bluebells, 20, 60, 67, 73, 74, 75, 191
 Bobartias, 76
 Bogs, 56
 Borders, 18, 20, 22, 27, 28, 63, 76, 84, 101, 106, 156, 171, 184
 Border edgings, 76, 177
 Bravoa (Scarlet Twin Flower), 177
 Brodiaeas, 207, 208
 Bulbs, 15, 17, 18, 47
 Bulb Breeding, 17
 Bulb Division, 129, 160
 Bulb Gardens, 20, 184
 Bulbs, Naturalized, 43, 52

Butterfly Tulips (*Calochorti*), 28,
156, 180, 184, 188

C

Callas (*Arums*), 157, 160-162
Calochorti (*Butterfly Tulips*), 28,
156, 180, 184, 188

Camassias, 28, 190, 193, 197

Cannas, 28, 165

Cape Cowslip (*Lachenalia*), 156,
162-164

Chilian Crocus (*Tecophila*), 135

Chinese Sacred Lily, 53

Chionodoxas, 67-68, 74

Christmas Roses (*Helleborus*), 18,
63, 64, 116, 117, 156

Clivias, 125, 129

Colchicums (*Meadow Saffrons*),
18, 57, 106, 107, 110

Commelinas, 188

Conservatories, 52, 116, 121, 125,
193, 206

Corms, 56

*Crinum*s, 140, 146

Crocasmias, 105, 106

Crocuses, 18, 60, 63, 64, 68-73,
75, 95, 179

Crocus, *Chilian* (*Tecophila*), 135

Crown Imperial, 20, 60, 94

Cyclamen, *Greenhouse*, 121, 128

Cyclamen, *Hardy*, 107, 112, 113

D

Daffodils, 20, 47, 48, 50, 52, 54,
57, 60, 73, 156, 191

Dahlias, 18, 19, 73, 84, 100, 106,
198-205

Day Lilies (*Hemerocallis*), 28, 73,
88, 197

Dells, 108, 190, 200

Dicentras (*Bleeding-heart Flow-
ers*), 107, 116

Dog's Tooth Violets, 107, 112

Double Daisies, 191

E

Earwig Traps, 200

Eremuri, 28, 73, 84, 100, 102, 197

Eucharis, 130, 135-137

F

Ferns, 102, 115

Ferns, *Hothouse*, 127, 156

Fritillarias, 94

Fumigating, 19

Funkias (*Plantain Lilies*), 206

G

Galtonia (*Hyacinthus candicans*),
21, 73, 87, 156, 197

Gardens, *Bulb*, 20, 56

Gardens, *Damp*, 57, 58

Gardens, *Dutch*, 39

Gardens, *Hot*, 58, 59, 137, 157,
164, 171, 175, 179, 184, 190,
200, 207, 213

Gardens, *Roof*, 35, 65

Gardens, *Shady*, or *Woodland*,
43, 57, 69, 93, 102, 108, 110, 112,
113, 115, 118, 177, 213

Gardens, *Terrace*, 41

Gardens, *Wall*, 102

Gesneras, 121, 126

Gladioli, 18, 20, 28, 73, 84-87,
100, 106, 133, 156, 209-212
Gloxinias, 154-156
Golden Privet, 68
Grasses, 103
Green-fly, 18
Greenhouses all for Bulbs, 137
Greenhouses, Alpine, or Unheated,
108, 113, 115, 116, 121, 132,
146, 195

H

Hæmanthus (Blood-root), 146
Heather, 88
Hedges, 43, 200
Helleborus (Christmas Roses), 18,
63, 64, 116, 117, 156
Hemerocallis (Day Lilies), 28, 73,
88, 197
Hepaticas, 18, 63, 64
Hippeastrums, 121-123, 129
Hyacinth Beds, 20
Hyacinths, Feather, 20, 21, 98
Hyacinths, Grape, 21, 98, 99, 156
Hyacinths, Miniature, 21
Hyacinths, Oriental, 20-32, 49,
60, 73
Hyacinths, Roman and Italian, 21
Hyacinths, Starch, 98
Hyacinths, Spanish, 21
Hyacinths, Tassel, 21, 98, 156
Hyacinths, Woodland, 21
Hyacinthus Candicans (Galtonia),
21, 73, 87, 156, 197

I

Irises, 18, 20, 28, 56-66, 73, 75,
95, 100, 156

Ivy, 51
Ixias, 106, 130, 133-135, 156, 179

J

Jonquils, 20, 51

K

Kniphofias (Red-hot poker), 73,
84, 100-102, 197

L

Lachenalias (Cape Cowslips), 156,
162-164
Laurestinus, 208
Liliums, 18, 20, 28, 73, 77-84, 95,
129, 140, 141, 147, 156, 157, 197
Lily Disease, 18, 83
Lily of the Valley, 15, 165-167
Lily, Turk's Cap, 15, 28, 73
London Pride, 117

M

Marvel of Peru, 205
Meadow Saffrons (Colchicums),
18, 57, 106, 107, 110
Moats, 200
Montbretias, 57, 73, 100-104, 106,
112
Moræas, 136
Moss, Shell, and Fibre for Bulbs,
25-38, 51, 53, 72, 139, 166
Mossy Saxifrage, 117, 147, 177
Musas, 157
Muscari, 21, 97-99
Myrtles, 206

N

- Narcissi, 45-55, 60, 73
 Narcissus, Poet's, 19, 20, 49, 73,
 138, 139
 Nerines, 121, 123-125, 129, 156,
 205

O

- Oleanders, 157
 Orchis, 114
 Ornithagalums, 107-110, 180,
 183
 Oxalises (Wood Sorrel), 205, 212

P

- Palms, 157
 Pancratiums, 28, 156, 157, 158-
 160
 Pansy, 22, 57, 72, 191
 Petunias, 104
 Plantain Lily (Funkia), 206
 Plants, Roof, 35, 109
 Plants for Rooms, 132, 165, 187,
 205
 Plants for Windows, 51, 64, 66,
 188, 206, 209, 213
 Plants, Stove, 135, 154
 Plumbago, 157
 Polyanthuses, 191
 Porches, 27, 94, 187
 Primroses, 191, 216

R

- Ranunculuses, 28, 96, 180-183
 Red-hot Pokers (Kniphofias), 20,
 63, 84, 100, 106

- Red Spider, 18
 Rhizomes, 56
 Rhododendrons, 83
 Rockeries, 28, 39, 41, 50, 56, 59,
 63, 65, 68, 70, 86, 87, 94, 100,
 106, 108, 171, 177, 184, 207
 Romuleas, 207
 Roof Plants, 35, 159

S

- Scarlet Twin Flower (Bravoa),
 177
 Schizostylis, 18, 100, 105, 106,
 156
 Scillas, 21, 67, 73-76
 Shrubberies, 50, 68, 108, 135, 179
 Shrubs, 39, 50, 51, 60, 75
 Silver Birches, 51
 Slugs, 20, 83
 Snowdrops, 15, 18, 64, 68, 69
 Solomon's Seal, 20, 57, 107, 115
 Sparaxis, 171-173
 Sparrows, 19
 Spiderworts (Tradescantias), 107,
 110, 111
 Spiræas, 116
 Sternbergias, 171, 177
 Stove Plants, 135, 154
 Streptocarpuses, 155, 156
 Summer-houses, 28
 Sunflowers, 67

T

- Tecophila (Chilian Crocus), 135
 Tigridias, 28, 156, 171, 174-
 177

Tradescantias (Spiderworts), 107,
110, 111
Tritelia, 97
Tropæolums, 164
Tuberoses, 157-159
Tubers, 56
Tubs, Urns, and Vases, 27, 39,
50, 64, 65, 71, 94, 95, 100, 164,
192, 195, 213, 216
Tulips, 16, 20, 33-44, 49, 60, 73,
96, 156, 179
Tulip Beds, 33, 38, 41, 42, 60
Tulip Craze, 16
Tydæas, 121, 127

V

Vallotas, 156, 188
Violas, 22, 72, 95, 104

W

Wall Pockets, 65, 102
Watsonias, 156, 207, 214
Windows, Plants for, 66, 188, 206,
209, 213
Window Boxes, 51, 64, 71, 75,
104, 110, 111, 154
Wood Sorrels (Oxalises), 205, 212

IS DUE ON THE LAST DATE
STAMPED BELOW

INITIAL FINE OF 25 CENTS

BE ASSESSED FOR FAILURE TO RETURN
THIS BOOK ON THE DATE DUE. THE PENALTY
WILL INCREASE TO 50 CENTS ON THE FOURTH
DAY AND TO \$1.00 ON THE SEVENTH DAY
OVERDUE.

JAN 10 1947

1900/4921

RECEIVED UCB-ENVI

JUN 26 2007

LD 21-100m-12,'43 (8796s)

469670 SB425
H3

YC 63769

THE UNIVERSITY OF CALIFORNIA LIBRARY

